THE LANCET.

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

Telegrams—LANCET, WESTRAND LONDON *Telephone*—GERRARD 5356 *Offices*—423, Strand, London, W.C. 2.

No. VI. OF VOL. I., 1921. **No. 5084. Vol. CC.** LONDON, SATURDAY, FEBRUARY 5, 1921. Founded 1823. Registered as a Newspaper. Published Weekly. **Pp. 112—Price 1s.** Annual Subscription Inland £2 2s. Abroad £2 10s.

J. & A. CHURCHILL'S NEW BOOKS.

OF NATIONAL IMPORTANCE.

THE HEALTH OF THE INDUSTRIAL WORKER. By E. L. COLLIS and M. GREENWOOD. Dedicated to the Right Hon. C. Addison, M.P. 30s. net.
POVERTY AND ITS VICIOUS CIRCLES. By JAMIESON B. HURRY, M.A., M.D. 2nd Edition. Illustrated. 15s. net, postage 9d.
FRESENIUS' QUALITATIVE ANALYSIS, including Poisons, Water, &c. 17th Ed. Trans. by C. A. MITCHELL. 36s. net.
JEX-BLAKE'S PHYS. SIGNS IN CHEST & ABDOMEN. 9s. 6d. net.
KLEEN'S MASSAGE. 2nd Ed. Trans. by M. L. DOBBIE. 32s. net.
BACK & EDWARDS' SYNOPSIS OF SURGERY. 15s. net.
THE MEDICAL DIRECTORY, 1921. 35s. net.

London: J. & A. Churchill, 7, Great Marlborough-street W. 1.

BY P. LOCKHART-MUMMERY, F.R.C.S.

DISEASES OF THE COLON AND THEIR SURGICAL TREATMENT,

AND

DISEASES OF THE RECTUM AND ANUS.

Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

Now Ready. Second Edition. 10s. 6d. net.

FEEBLEMINDEDNESS IN CHILDREN OF SCHOOL AGE.

By C. P. LAPAGE, M.D., M.R.C.P.
With Appendix by MISS MARY DENDY.
The University Press, Manchester. Longmans, Green & Co., London.

SECOND EDITION. Demy 8vo. 280 pp. 56 Plates, 95 Illus. 10s. 6d. net.

A TEXT-BOOK of RADIOLOGY (X-RAYS).

By E. REGINALD MORTON, M.D., C.M., F.R.C.S.
"Can be confidently recommended."—ARCHIVES OF RADIOLOGY.
Henry Kimpton, 263, High Holborn, London, W.C. 1.

OXFORD MEDICAL PUBLICATIONS.

JUST ISSUED.

MEDICAL NOTES. By Sir THOMAS J. HORDER, M.D. (Lond.), F.R.C.P. (Lond.). Fcap. 8vo. Cloth. Price 6s. net.
THE EARLY DIAGNOSIS OF TUBERCLE. By CLIVE RIVIERE, M.D., F.R.C.P. (Third Edition). Price 15s. net.
HEART DISEASE—GRAPHIC METHODS.—By JOHN HAY, M.D., F.R.C.P. With an Introduction by Sir JAMES MACKENZIE. (Second Edition). Demy 8vo. Cloth. Illustrated. Price 12s. 6d. net.
THE CARE OF HUMAN MACHINERY. By R. M. WILSON, M.B., Ch.B. Crown 8vo. Cloth. Illustrated. Price 10s. 6d. net.
THE FEEBLENESS OF GROWTH AND CONGENITAL DWARFISM. By MURK JANSEN, O.B.E. With an Introduction by Sir ROBERT JONES, K.B.E., C.B. Royal 8vo. Cloth. Illustrated. Price 12s. 6d. net.

Henry Frowde and Hodder & Stoughton, 17, Warwick-square, Newgate-street, London, E.C. 4.

MR. EDWARD ARNOLD'S NEW BOOKS AND NEW EDITIONS.

PURVES STEWART'S DIAGNOSIS OF NERVOUS DISEASES. 5th Ed. 30s. net.
MIDWIFERY. By TEN TEACHERS. 2nd Ed. 30s. net.
HUTCHISON'S DISEASES OF CHILDREN. 4th Ed. 21s. net.
WHITFIELD'S HANDBOOK OF SKIN DISEASES. 2nd Ed. 18s. net.
HOWARD'S SURGERY FOR NURSES. 4th Ed. 7s. 6d. net.
ROTH'S ORTHOPÆDICS FOR PRACTITIONERS. 10s. 6d. net.
HERSCHELL'S TEXT-BOOK OF INDIGESTION. 4th Ed. Revised and re-written by A. ABRAHAMS 10s. 6d. net.
BROWN'S PSYCHOLOGY AND PSYCHOTHERAPY. 8s. 6d. net.
TODD'S LECTURES ON SURGERY TO NURSES. 7s. 6d. net.
HENDERSON'S MEDICINE FOR NURSES. 8s. 6d. net.

London: Edward Arnold, 41 & 43, Maddox-street, W. 1.

Just Published. Demy 8vo. Pp. xii. + 145. With 14 Illustrations. Price 7s. 6d. net. (Postage 8d.)

THE SPHYGMOMETER: ITS VALUE IN PRACTICAL MEDICINE.

By WILLIAM RUSSELL, M.D., LL.D.,
Ex-President, Royal College of Physicians, Edinburgh; Professor Emeritus of Clinical Medicine, Edinburgh University; Consulting Physician, Royal Infirmary, Edinburgh.

Baillière, Tindall & Cox, 8, Henrietta-st., Covent Garden, London, W.C. 2.

ELLIS'S MEDICAL LIBRARY

For Special Announcement see Page 4.

9, Lovell's Court, Paternoster-row, London, E.C. 4.

THIRD EDITION. Royal 8vo. 1024 pp. 243 Illus., 9 Plates in Colours.

PHYSIOLOGY AND BIOCHEMISTRY IN MODERN MEDICINE.

By J. J. R. MACLEOD, M.B., Ch.B., and others. "Meets a need which has long been felt."—EDIN. MED. JL.
Henry Kimpton, 263, High Holborn, London, W.C. 1.

PLASTIC SURGERY OF THE FACE.

By H. D. GILLIES, C.B.E., F.R.C.S., Major R.A.M.C., Plastic Surgeon, Queen's Hospital, Sidcup, and Prince of Wales' Hospital, London, N.

Medium 4to. Cloth. 424 pages. 844 Illustrations.
Price £3 3s.

Henry Frowde and Hodder & Stoughton, 17, Warwick Square, Newgate Street, London, E.C.

Now Ready. Pp. xi.+269. With 3 Charts. 5s. net.

ON ALCOHOLISM: Its Clinical Aspects and Treatment.

By FRANCIS HARE, M.D., Medical Superintendent of the NORWOOD SANATORIUM, Beckenham.
"Marked by candour, common sense, and moderation ..... likely to become the standard text-book."—BRITISH MEDICAL JOURNAL.
London: J. & A. Churchill, 7, Great Marlborough-street.

A NEW WORK JUST OUT

RANSON'S ANATOMY OF THE NERVOUS SYSTEM

In this new work Dr. Ranson lays emphasis on the developmental and functional significance of structure. The reader is led at the very beginning of his neurological studies to think of the nervous system in terms of its relation to the rest of the living organisms. By this method structural details become interesting instead of dull, and the correlation of the various neurological courses is made easier. During the past twenty years many considerable additions have been made to the science of neurology. The more important of these have been included by Dr. Ranson. An outline for a laboratory course in neuro-anatomy has been included.

Octavo of 395 pages, with 260 Illustrations, some in colours. By STEPHEN W. RANSON, M.D., Professor of Anatomy, Northwestern University Medical College, Chicago. Cloth, 32s. 6d. net.

W. B. SAUNDERS COMPANY, Ltd., 9, Henrietta Street, LONDON, W.C. 2.

"KLONDOL"

The clean-working Antiseptic and Disinfectant of the "LYSOL" class.

IT DISSOLVES TO MAKE A PERFECTLY TRANSPARENT SOLUTION.

IT IS NON-IRRITANT AND DOES NOT BENUMB THE HANDS.

IT EFFECTIVELY "WIPES UP" BACTERIA.

IT FORMS AN IDEAL WASH AND DOUCHE.

Particulars and Samples on Application to the Manufacturers—

EDWARD COOK & CO. Ltd., BOW, E. 3.

Valentine's Meat-Juice

In **Hospital** and **Private Practice** during **Epidemics** and **in their own persons** when ill, **Physicians** have demonstrated the **Value** of **Valentine's Meat-Juice** in **Sustaining** and **Strengthening** the weakened **Vital Forces.**

Pneumonia *and* Influenza.

Cavalier Dr. Enrico Ballerini, *Late Surgeon to the Hospital of Rome, Italy:* "I have used VALENTINE'S MEAT-JUICE in the treatment of patients and also personally after having been ill with Influenza, and I must say it is an excellent tonic in conditions of great organic weakness. I have prescribed it with the greatest satisfaction for convalescents and invalids restricted to a liquid diet."

EJward C. Seufert, M. D., *Professor Histology and Pathology, Illinois Medical College, Chicago:* "I have always been a user of the valuable preparation, VALENTINE'S MEAT-JUICE. The best results that I have obtained from it have been in Typhoid Fever and Broncho-Pneumonia of children. I believe that the samples sent helped to save the child of one of my students at the College."

For Sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,

D 175 **RICHMOND, VIRGINIA, U. S. A.**

THE LANCET.

No. 5084. LONDON, SATURDAY, FEBRUARY 5, 1921. Vol. CC.

CONTENTS.

THE WHOLE OF THE LITERARY MATTER IN THE LANCET IS COPYRIGHT.

TWO ADDRESSES on the Future of the Poor-law Infirmaries. Delivered at the Resumed Discussion before the Harveian Society of London on Jan. 27th, 1921. I. By A. G. STEWART, M.A., M.D., F.R.C.S. Edin., Medical Superintendent, Paddington Infirmary. — II. By R. DUDFIELD, O.B.E., M.A., M.B., D.P.H. Camb., Medical Officer of Health of Paddington 259

ORIGINAL ARTICLES.

An Investigation of the Cause and Relief of Pain in Gastric Ulcer. By E. P. POULTON, M.A., M.D.Oxon., F.R.C.P. Lond., Beit Memorial Research Fellow; Assistant Physician, Guy's Hospital 263

The Induction of Abortion. By Sir JOHN PHILLIPS, M.A., M.D. Cantab., F.R.C.P. Lond., Honorary Physician to H.M. Queen Mary; Consulting Obstetric Physician to King's College Hospital; and Emeritus Professor of Obstetrics in King's College 266

The Incision for Appendicectomy. By NORMAN C. LAKE, M.D., M.S., D.Sc. Lond., F.R.C.S. Eng., Assistant Surgeon, Charing Cross Hospital; Surgeon, Queen's Hospital for Children 268

The Operative Treatment of Prolapse (Procidentia) of the Rectum in Adults. By J. P. LOCKHART-MUMMERY, F.R.C.S. Eng., Senior Surgeon, St. Mark's Hospital for Diseases of the Rectum, &c. 270

A Suggested London Coöperative Polyclinic. By CHARLES A. PARKER, F.R.C.S. Edin. 273

CLINICAL NOTES:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

Disseminated Sclerosis Treated with Intravenous Arsenic. By J. R. PERDRAU, M.B., B.S. Lond., Pathologist, Lambeth Infirmary; and G. F. STEBBING, M.B., B.S. Lond., Senior Assistant Medical Officer, Lambeth Infirmary 271

A Note on the Administration of Bile Salts in Infantile Marasmus. By E. F. KERBY, M.B., B.S. Lond., late House Physician to the Evelina Hospital for Children, London 272

MEDICAL SOCIETIES.

Medical Society of London ... 273
Royal Society of Medicine:
Section of Medicine 274
Section of Otology 275
Harveian Society 276
Tuberculosis Society 277
Scottish Society of Anæsthetists 277
Bristol Medico-Chirurgical Society 278

REVIEWS AND NOTICES OF BOOKS

Prevention of Venereal Disease. By Sir G. Archdall Reid, K.B.E. 279
A Guide to Anatomy. By E. D. Ewart 280
Die Wurmfortsatzentzündung. By Dr. A. Rheindorf 280
Macedonia: A Plea for the Primitive. By A. Goff and Hugh A. Fawcett, M.R.C.S., D.P.H. 281
The Science of Eating. By Alfred W. McCann 281
British Journal of Experimental Pathology 281
Journal of Hygiene 281

FRENCH SUPPLEMENT TO THE LANCET.

Under the Editorial Direction of Professor CHARLES ACHARD, Professor of Clinical Medicine in the University of Paris; and Dr. CHARLES FLANDIN, D.S.O., Chef de Clinique à la Faculté de Paris.

Retrolabyrinthine Investigation in Otitic Suppuration of the Posterior Cerebral Fossa. By Dr. A. HAUTANT, Oto-Laryngologist to the Paris Hospitals 282

Cerebellar Abscesses of Aural Origin. By Dr. ANDRÉ MOULONGUET, Oto-Laryngologist to the Paris Hospitals 283

LEADING ARTICLES.

THE HEALTH OF THE TEACHER 287

THE PANDEMIC OF INFLUENZA, 1918-1919 288

ILL-JUDGED ECONOMY 288

ANNOTATIONS.

Trinity College, Dublin 289
Anthrax from Shaving-brushes 289
The Ventilation of Submarines 290
Cancer of the Uterus in Young Women 290
The Form of Mercury for Inunction 290
London Panel Practice 291
The Concentrating Activity of the Gall-bladder 291
Friedmann's Vaccine 291
Carcinoma of the Prostate 291
Medical Provident Schemes 292
The Action of Suprarenal Toxic Serum on Atheroma 292
Health in London and Calcutta 293

SPECIAL ARTICLES.

Paris: Sensitised Rabbit Serum for Hæmorrhage.—Unsuccessful Action against a Medical Practitioner 295

URBAN VITAL STATISTICS:
English and Welsh Towns .. 295
Scottish Towns 295
Irish Towns 295

CORRESPONDENCE.

Prophylaxis in Venereal Disease (Mr. Kenneth M. Walker) 296
Part-time or Whole-time for the M.O.H. and S.M.O. (Dr. I. D. Suttie, Dr. G. W. Fleming, Dr. J. H. Gellatly, Dr. T. Chetwood) 296
An Attack on Lunacy Administration (Dr. Henry Rayner) 297
Patchwork Anatomy (Dr. Marsh Pitzman) 297
The Indications for Removal of Tonsils (Dr. J. B. Cavenagh, Sir James Dundas-Grant) 298
The Diet of Well-to-do Children (Dr. Leonard Williams) 298
Referred Pain (Dr. A. Murdoch) 299
Separation of Prescribing and Dispensing (Mr. H. C. Richards) 300
Oral Sepsis, with Special Reference to Root Infection (Sir Thomas Horder) 300
Prescribing and Dispensing of Iodine in Large Doses (Dr. W. R. Grove) 300

THE SERVICES.

Royal Naval Medical Service 301
Army Medical Service 301
Royal Army Medical Corps ... 301
Royal Air Force 301
India and the Indian Medical Service 301

OBITUARY.

Edmund Johnson Spitta, M.R.C.S., L.R.C.P. Lond. ... 301
David Yellowlees, M.D. Edin., LL.D. Glasg. 301
Arthur Jackson, F.R.C.S. Eng. 302
W. L. Robertson, M.A., M.B., Ch.B., F.R.C.S. Edin. 302

MEDICAL NEWS.

University of Oxford 302
University of London: Charing Cross Hosp. Medical School 302
Royal College of Physicians of London 302
Royal Colleges of Physicians of London and Surgeons of England: Pass-list 302
Bristol Dispensary 265
Bristol Mental Hospital 268
British Hospitals' Association 272
Royal Society 301
Royal College of Surgeons of England 303
Post-graduate Lectures for London Panel Practitioners 303
London Hospital Medical College 303
Hunterian Society 303
Medical Coroner 303
No. 19 C.C.S.: Annual Dinner 303
National Dental Hospital: Annual Dinner 303
Medical Officers of Schools Association 303
Donations and Bequests 303
University of Aberdeen 303
Scottish Midwives Board 303
Society for the Prevention of Hydrophobia 303
Payment for Medical Services at a Voluntary Hospital 304
Admission of Paying Patients to Liverpool Poor-law Hosp. 304
Royal Southern Hospital, Liverpool: Dinner to Sir Robert Jones 304
Lord Mayor of Bristol's Hospital Sunday Fund 304
East Grinstead Dispensary ... 304
R.A.M.C. (T.) Concert at Birmingham 304
Manchester Royal Eye Hosp. 304
Sir George Makins at Belfast 304
Committee on Voluntary Hospitals 305
Child-Study Society 305
Medico-Legal Society 305
No. 14 General Hospital: Reunion Dinner 305
Encephalitis Lethargica 305

NOTES, SHORT COMMENTS, &c.

Warning to Hospital Authorities 307
Public Health in Calcutta, 1919 307
Mental Tests for School Children 307
The Contamination of Shell-fish 308
Slum Life in Manchester and its Results 308
Early Sex Experience 308
Maternal Precautions of the Electric Skate 308
Chloropicrin as Insecticide ... 308

Appointments, Vacancies 305
Births, Marriages, and Deaths 305
Books, &c., received 305
Medical Diary 306
Acknowledgments of Communications received 308

Six Papers by Lord Lister.

With a short Biography and Explanatory Notes by Sir RICKMAN J. GODLEE, Bart., K.C.V.O., M.S. With 4 Plates and an Autograph Letter. Crown 8vo. 10s net, postage 9d.

A Handbook of Practical Parasitology.

By Dr. **MAX BRAUN** and Dr. **M. LÜHE.**
Translated by LINDA FORSTER.
Royal 8vo. 15s. 6d. net, postage 1s.
"Cannot be too highly recommended."—R.A.M.C. JOURNAL.

Laboratory Studies in Tropical Medicine

By **C. W. DANIELS, M.B., F.R.C.P.,** and **H. B. G. NEWHAM,** C.M.G., M.D., M.R.C.P., M.R.C.S., D.P.H. FOURTH EDITION, thoroughly Revised, with many new and additional Illustrations. Demy 8vo. 21s. net, postage 1s. 3d.
"The book is a very useful one, and will help those for whom it is intended in every way."—BRITISH MEDICAL JOURNAL.

JOHN BALE, SONS & DANIELSSON, LTD., 83-91, Great Titchfield Street, London, W. 1.

THE FEBRUARY NUMBER OF

The

Prescriber

is a

SPECIAL DOUBLE NUMBER

and presents a

YEAR-BOOK OF TREATMENT for 1920

A Complete Review of the Literature on Treatment for the Year, with Bibliography and full References.

Information is given under the respective diseases, which are arranged in alphabetical order.

This number will furnish the General Practitioner, as well as the Specialist, with an invaluable Reference Book for use throughout the Year. The entire field is reviewed, and every advance is indicated.

Price **3s. 6d.** By post 3s. 9d.

Annual Subscription* 20s. *post free.

Of all Medical Booksellers, or from—

THE PRESCRIBER OFFICES,
6, South Charlotte Street, Edinburgh.

CHARLES GRIFFIN & CO., Ltd., Publishers.

*** Note.—All prices are net, postage extra.

FIFTH EDITION. Thoroughly Revised. Re-set. In large 8vo. Cloth. With Tables and Illustrations. 36s.

POISONS: Their Effects and Detection.

By A. WYNTER BLYTH, M.R.C.S., F.I.C., F.C.S., Barrister-at-Law; and M. WYNTER BLYTH, B.A., B.Sc., F.C.S.

"Undoubtedly THE MOST COMPLETE WORK on Toxicology in our language."—THE ANALYST (on the last Edition).

THIRD EDITION. Revised. Re-set. With Numerous Tables and Illustrations. 25s.

DAIRY CHEMISTRY.

For Dairy Managers, Chemists, and Analysts. A Practical Handbook for Dairy Chemists and others having Control of Dairies.

By H. DROOP RICHMOND, F.I.C.

"..... In our opinion the book is the BEST CONTRIBUTION ON THE SUBJECT THAT HAS YET APPEARED in the English language."—LANCET (on the First Edition).

THIRD EDITION. Revised and greatly Enlarged. Pp. i.-xiii. + 939. Fully Illustrated. In large 8vo. Cloth. 56s.

OILS, FATS, BUTTERS & WAXES:

THEIR PREPARATION and PROPERTIES, and Manufacture therefrom of CANDLES, SOAPS, and OTHER PRODUCTS.

By C. R. ALDER WRIGHT, D.Sc., F.R.S.
Thoroughly Revised Throughout
By C. AINSWORTH MITCHELL, B.A., F.I.C., F.C.S.

"Will be found ABSOLUTELY INDISPENSABLE."—THE ANALYST

In Large Crown 8vo. Cloth., Pp. i.-xv. + 324. With 6 Coloured Plates and 82 other Illustrations. 10s. 6d.

A PRACTICAL HANDBOOK OF THE

TROPICAL DISEASES OF ASIA AND AFRICA

By H. C. LAMBART, M.A., M.D., &c.

"As a guide to the practitioner in the Tropics it would be difficult to find a volume of the same size which covers exactly the same ground, or which does so in quite the same effective manner."—MEDICAL TIMES.

London: C. GRIFFIN & CO., Ltd., Exeter St., Strand, W.C.2.

ESSAYS ON THE SURGERY OF THE TEMPORAL BONE

By Sir CHARLES A. BALLANCE K.C.M.G., C.B., M.V.O., M.S., F.R.C.S.,
Consulting Surgeon to St. Thomas's Hospital, &c.
Illustrated by 125 Plates (40 in Colour) and 120 Figures. In 2 Volumes. Medium 4to. Price 5 guineas.

MACMILLAN & CO.

ANGINA PECTORIS

VERDON

MOULTON, Church Street, Brighton. Demy 8vo. 412 pp. 13/6 net.

Extract from Letter from The Rt. Hon. Sir CLIFFORD ALLBUTT, K.C.B.:—"*I see much of great interest in your beautifully printed work on Angina Pectoris, and between us we shall rouse our brethren at least to take notice of us. In my own work I was hankering after some accommodation between your view and my own.*"

Price 1s. With Illustrations

APPLICATION OF TRUSSES

to HERNIÆ. Clinical Lecture delivered at King's College Hospital. By the late JOHN WOOD, F.R.S., Senior Surgeon to King's College Hospital. Reprinted from "Medical Examiner."

London: Matthews Brothers, 10, New Oxford-street, W.C.

THE SURGERY OF THE HEART

By Sir CHARLES A. BALLANCE,

K.C.M.G., C.B., M.V.O., M.S., F.R.C.S.,
Consulting Surgeon to St. Thomas's Hospital, &c.
Illustrated by 48 Figures. Demy 8vo. 10s. 6d. net.
Macmillan & Co.

CAPSICUM

"GAMGEE TISSUE"

Sole Proprietors and Manufacturers:

ROBINSON & SONS, Limited,
Chesterfield.

Two Addresses
ON THE
FUTURE OF THE POOR-LAW INFIRMARIES.

Delivered at the Resumed Discussion before the Harveian Society of London on Jan. 27th, 1921.

I.

BY A. G. STEWART, M.A., M.D. F.R.C.S. EDIN.,
MEDICAL SUPERINTENDENT, PADDINGTON INFIRMARY.

IN considering the future of the Poor-law infirmaries it is essential to understand the present position of affairs, and I beg to thank you for allowing me to try to explain some matters which, judging from some of the remarks of previous speakers, are not understood. Too frequently criticism consists of vague general abuse. Definite charges can be met, and they at any rate serve a useful purpose, inasmuch as they form a basis on which to discuss improvements. The problem of the Poor-law infirmary as regards London and the larger towns is somewhat different from that in country districts. In the former the infirmaries are under separate administration, and are naturally better equipped than in the latter, where there are special wards in the workhouse for the sick. I think it fair to make this point, just as previous speakers in referring to voluntary hospitals were obviously thinking of large teaching general hospitals and not of cottage hospitals.

THE MYTH OF THE CHRONIC AGED PAUPER.

About 40 years ago the general voluntary hospitals treated all acute cases. The function of the infirmary was to provide for the chronic and incurable sick, and they were staffed and equipped on this assumption. During the past 30 years there have been great strides in medical treatment and naturally a much bigger run on the beds of the hospitals. It is now admitted that the voluntary hospitals can no longer cope with all the acute work of the country. At any rate, those cognisant of the position know that for many years the infirmaries have had to treat many cases of fracture and other accidents, and of broncho-pneumonia, as well as miscarriages, and such emergency surgical work as "acute abdomens." The medical profession generally would be surprised if it knew the extent of this work. May I be allowed to give a few figures to contradict a prevalent idea that infirmaries only treat chronic cases? I am purposely quoting pre-war figures so that it may not be thought that the war has produced these changes. For the year 1914 50 per cent. of our total cases admitted made a stay of less than one month, and 75 per cent. less than two months. As the average duration of stay in such hospitals as University College, Westminster, &c., is 37 days (for all figures referring to voluntary hospitals I might say my authority is the last edition of "Burdett's Hospitals and Charities"), it will be obvious that some 60 per cent. at least of our beds catered for the same class of case as the voluntary hospitals. I only refer here to the question of duration of stay. Applying this to Mr. E. W. Morris's own figures for the whole of London we find 12,000 infirmary beds dealing with acute cases, whereas the total hospital beds in London number 14,000. Yet it is actually stated that we treat "only chronic and incurable cases." This is the kind of criticism to which I maintain we have a right to object. Again, to contradict a common opinion that we deal only with the aged, I might add that 18 per cent. of our admissions were under 3 years of age, 30 per cent. under 10 years, and only 20 per cent. over 60.

Another prevalent opinion is that the infirmaries deal with the sick of the workhouses, or, in other words, with paupers. It is constantly being said that they are so unpopular that people are unwilling to enter them. Even such a great authority on hospital matters as Mr. Morris, of the London Hospital, stated at the last meeting that the Poor-law infirmaries should not be confined to paupers. I was told only the other day by the medical superintendent of a large South London infirmary that for the past year only 8 per cent. of his cases came from the workhouse; and in the year 1914 only about 20 per cent. of our admissions were workhouse patients. The great majority of our patients are hardworking people whose only need of relief is due to their sickness. The infirmaries were originally provided for the "destitute," but it is not perhaps generally known that the Local Government Board's definition of destitution has for many years been very elastic, and really means inability to provide for oneself the particular form of medical attendance or treatment of which there is urgent need. The other day I asked the clerk to the guardians if he would kindly work out the numbers of patients in the infirmary who paid towards their maintenance, and I was surprised to find that over 60 per cent. did so.

OUR EQUIPMENT.

We are told that there is a prejudice against Poor-law infirmaries. This is a trite saying. Old members of our lay staff apply for treatment, and I have been told by several general practitioners in this district that their patients prefer the infirmary to the hospital. I venture to prophesy that some of the squeamish objectors will find their prejudices diminish when the voluntary hospitals begin to charge, as we have done. It would be better if instead of talking of stigma someone would give a little attention to the mediæval and complicated law of settlement, which is responsible for much of the prejudice against the Poor-law. It is this antiquated law which is responsible for the apparent reluctance to make the infirmaries as accessible as they might be to anyone seeking admission there. Some boards of guardians have actually anticipated Parliament in trying (partially, at any rate) to adopt commonsense measures to unravel this bundle of red tape. The character of the work has thus immensely changed. While I freely admit that we were not equipped or staffed to meet this demand as we should have liked, I resent the remarks that we provided little more than food and shelter.

When war broke out many infirmaries all over the country were taken over as military hospitals—not as auxiliary, but as first-class hospitals. The staff and equipment were taken over, and according to the Army Council carried out the work satisfactorily. For years we have been doing such work as bone-plating and grafting, using spinal anæsthesia and local anæsthesia for serious operations, and doing hundreds of acute abdominal operations yearly. The Harveian Society has seen such cases as successful resections of carcinoma of the bladder and stomach, and of brain abscess and gangrenous intussusception done at a Poor-law infirmary, which in some ways is much inferior to many others. The statement that there was no provision of X rays or pathological facilities is quite incorrect.

OUR NURSES.

As regards our nursing, I maintain that our nurses in the separate infirmaries are as well trained, at any rate as regards private nursing, as the general hospital nurse. The more up-to-date infirmaries have appointed special sister tutors; have all hospitals done so? Training is given in special subjects, and several of us prescribe a four years' course of training, whereas the usual hospital period is three years. Examinations are held by outside examiners, of whom I see some here to-night. I have recently got some of our consulting staff to give lectures in their special subjects. Again, owing to the much greater variety of cases seen and the absence of students, the infirmary nurse has had certain advantages, and the very fact of our limitations has made the work more akin to what she has afterwards to do in private nursing.

The numbers of nurses in proportion to patients have greatly improved in recent years and are still improving. In this connexion one might fairly ask why there is such a tremendous disproportion between even the great teaching hospitals as regards numbers of nurses, and to suggest that if there were anything like agreement we would then have a standard to which we might refer. In admitting that our equipment and staffing were not all we should have liked I do not

think it fair to blame the guardians altogether, as is usually done. If there was in some quarters the tendency to adopt the attitude suggested by Mr. Morris —"Why should we provide costly equipment when we can get the work done for nothing?"—it should be ascribed to public opinion, which was not alive to the actual situation, or, in other words, would not sanction the necessary money, and we cannot expect an A1 hospital on C3 expenditure. The change of feeling in such matters caused by the war, and the appreciation of the inadequacy of accommodation for the sick, has stirred public opinion, and the guardians have responded to this feeling, as they would have done years ago had the feeling existed. Many of these boards take a surprisingly broad point of view, devote a great deal more time to their duties and have a much more intimate knowledge of the work than have the directors of general hospitals. You would be surprised if you knew the amount of work supposed to be carried out by other authorities which in practice is referred to and done by the guardians, who merit the credit for the same. At any rate, whatever our view as doctors may be as to the governors of hospitals, we must awake from dreams and remember that we are living in the democratic twentieth century and not in the feudal age. We ought to be represented on the governing bodies of hospitals, but to expect a 50 per cent. representation, as Mr. Morris suggested, is only to invite disappointment.

I feel bound to say that in the past we had very little help from the profession generally in backing up our requests for improvements, although I feel it only fair to mention the exception of the Harveian Society for what I believe to have been its pioneer action in pre-war years of holding some of its clinical meetings at our infirmary, and thereby giving us a little encouragement.

Another complaint is the lack of classification. This has always been a difficulty. We are not like the voluntary hospitals which set aside wards for certain classes of cases and largely fill up their vacancies from waiting lists, nor like the fever hospitals or asylums which refuse more cases when their beds are full. We are the only institutions whose beds are supposed to be inexhaustible, and who are compelled to take in all medically deserving cases, however full we may be. We treat most infectious diseases, apart from scarlet fever and diphtheria, and in short, all the numerous cases which the hospitals send to us, often for the very reason that they are difficult to classify. It was one of the great merits of Dr. Addison's Bill that classification would be greatly improved.

THE FUTURE OUTLOOK.

May I now turn to the future? I think that the problems are too often approached from the purely medical point of view, and it is apt to be forgotten that the prime function of the hospital is to treat the sick and to render the patient a useful member of the community. If this were properly appreciated it would be evident that there need be no rivalry between the infirmary and the general hospital. Each of them has a future and I beg to differ from Dr. Wilson and to submit that each has a great future, and that the futures are not the same.

I believe that the voluntary hospitals will have to consider the problems more from the scientific, research, and teaching sides, and to approach them essentially as specialists, whereas we have to tackle mainly the economic aspect of the cases and approach them from the point of view of the general practitioner. If this were done, and especially if there were some central authority to coördinate our efforts, great improvements could be effected and much money saved.

We are accused of lacking the most advanced scientific and research apparatus. I retaliate that this is not essential, especially in these days when economy must be considered, and say that the hospitals, in their excess of scientific zeal, have sometimes not seen the wood for trees. For instance, I know it requires much more skill and brains, and brings more kudos, to treat a case of spina bifida than to treat a broncho-pneumonia, but, assuming that each survives, perhaps the broncho-pneumonia will turn out the more useful member of the community. After all, is it right that cases of acute enteritis and burns should be turned away from hospital when the beds are occupied by cases of infantile diplegia or new growths of the kidney? I say it is *only* right if you provide the former with places to go to, and this is where the infirmary comes in. If our work were coördinated, beds for certain rarer types of disease, such as goitre, cleft palate, and cerebral tumours, could be set aside in hospitals where there were surgeons especially experienced in such work. As a matter of fact this is done in practice to-day, but it should be regularised, so that there can be no question of the general practitioner being unable to get less dramatic but equally deserving cases admitted. Now, if this principle were admitted the work could be better done and economies effected—e.g., in the way of unnecessary reduplication of equipment.

If the infirmary is to do the routine but not less useful work, it follows that the methods of staffing and administration which are best for the hospital are not necessarily the best for the infirmary. I think there is much in the suggestions of Dr. Charles Buttar and Mr. Basil Hall, of Leeds, that the infirmary posts should be paid and allocated to junior men. In the past it has been extremely hard for young men without money to specialise, and in the future the way must be made easier and brilliant men must not be lost for this reason. I think there is no necessity whatsoever for all cases in the future infirmary to be under specialists, as they are in voluntary hospitals. In fact, there might be a danger of the old complaint of admitting from the point of medical interest and not from that of the patient and of the State.

In this discussion every speaker—specialist, layman, and general practitioner, and, I confess, myself—has rather had the tendency to consider the poor chronic incurable as something undesirable. In fact, some speakers actually referred to him as rubbish. I have heard this type of case referred to also as the gold-bearing goose, but perhaps the nomenclature varies in the Harrow-road and Bayswater. I think I can fairly claim that I am not biased against the specialist; at any rate, I have made every endeavour to welcome him to my own infirmary. But I do say that a large part of our work can be done equally well by the general practitioner. I submit that the definition of a general practitioner is not one who puts up his plate and is paid by fees, but one who treats the average ordinary case of sickness. I do not in the least see why we should not have part-time general practitioners on our infirmary staffs, provided, but only provided, they demand sufficient remuneration to justify their giving the necessary time to the work.

The Training of General Practitioners.

Again, we can do a useful work—as, I submit, we have done in the past—in training our residents (for we must have some whole-time residents) to become useful general practitioners. We have had in the past very many capable young residents who have nearly always come to us after holding resident posts at one and sometimes three or four hospitals. Now such a staff of general practitioners, or young men with two or three years' post-graduate experience, naturally expect more responsibility than do the newly qualified house surgeons of a voluntary hospital. The consultant should correspond to the consultant in general practice and assist and advise, but not displace, the general practitioner. One of the duties of the medical superintendent would consist in linking together the staff, in seeing that the requests of the general practitioner for advice were acceded to, and, in short, in promoting the spirit of team-work. Team-work must include the general practitioner, who has too often in the past lost all contact with his patient when he has entered hospital.

In prophesying that the infirmary of the future will be for the ordinary types of disease, I do not mean to suggest that there is no scope for research work or for students.

On the contrary, the infirmaries would serve a useful purpose, for too often in the past it has been

forgotten that the average student is going to be a general practitioner and not a specialist, and he will see in the infirmary cases which will be as useful to him afterwards as the rarer cases to which he now devotes such a large part of his energies. But I do repeat that our main function is treatment. In suggesting that there is a future for both the hospital and infirmary it matters not whether the former remains voluntary or comes under the State, provided that the work is coördinated. In this connexion one comes to what is probably the greatest change made by the voluntary hospital in recent years—namely, the proposal to charge those patients who can afford to pay. In passing I might be allowed to call your attention to the fact that this is what we have been doing in the Poor-law institutions for 30 years. I believe the change is fraught with far greater consequences than the hospitals possibly recognise, and I believe that both the Poor-law and the hospitals are entirely wrong in the principle, as this is opposed to the modern tendency of insuring against all evil.

The Time to Pay.

Surely the time to pay is when a man is well, and not when he is ill and out of work. The State has admitted its liability to treat the working man for minor illness under the panel system, and the principle has been accepted by the medical profession. Is it not logical that the State should assume the responsibility of treating the working man when he develops pneumonia or breaks his leg? And can anyone doubt that the working man is going at some time (sooner or later) to demand this, and demand it not as charity but as a right? Is it not fairer that all should have to pay their share by some such scheme as an extension of insurance contributions rather than by optional weekly voluntary contributions, as is done in the north? The great objection raised against the voluntary hospitals coming under the State (in some form) is the fear of control or, in other words, supervision. But is not some form of supervision or some central controlling influence desirable (I refer not to the medical but to the lay aspects of the case)? Let us turn to the question of expenditure.

THE DESIRABILITY OF ADMINISTRATIVE COÖRDINATION OF VOLUNTARY HOSPITALS.

As regards in-patients, after deducting the cost of rent, rates and taxes, and out-patients, the average cost per occupied bed in the hospitals of England varies tremendously, e.g.:—

In	5 hospitals the cost is over	...	...	£170
,,	14 ,, ,,	from ...	...	£140 to £150
,,	18 ,, ,,	,, ...	...	£120 ,, £130
,,	22 ,, ,,	under ...	...	£90

As regards the cost of out-patients (calculated on hundreds of thousands of cases) if one takes four leading London teaching hospitals the cost per out-patient is 3*s.* 2*d.*, 4*s.* 2*d.*, 7*s.* 4*d.*, and 7*s.* 8*d.*

Perhaps these figures can be explained, but am I wrong in suggesting it is desirable there should be some central authority to investigate such matters, and perhaps suggest the probability of certain economies, just as all our expenditure is subject to the scrutiny of the Ministry of Health? Again, the question of the tremendous variation in the duration of stay in different hospitals should be looked into (17 to 38 days in London teaching hospitals). This should be done not merely from the statistical point of view. It might, for example, be found out what is the percentage recurrence after operation for hernia in the hospitals where the average durations of stay are 17 and 38 days.

Again, I do not think that the administration of hospitals is perfect, in spite of their being held up to us as models to copy. Such questions as dietaries, the question of explaining operations to patients' friends, &c., are left to the house surgeon or to the nurses, and frequently are nobody's business. The young house surgeon—and I speak from wide experience—does not, as a rule, appreciate the importance of such matters, however good his scientific training may be. After all the patient's friends will forgive you if you fail to diagnose the exact form of one of the muscular dystrophies when he will not forgive you if you forget to send out till too late a notice that his mother is dying. In support of my suggestion that a more human point of view is desirable, might one ask if any member here can recollect any of our numerous medical societies discussing, or any papers in our leading medical journals dealing with such subjects as the possibility of improving our gloomy out-patients departments, or cutting down the hours of waiting there by some attention to method? Or, again, with the possibility of tracing the medical history of patients who migrate from one hospital to another?

Can it be denied that if one-hundreth part of the brains and trouble which have been applied to the question of, say, gastric analysis had been applied to such problems the results would have been worthy of that attention. It is no answer to say that these are not questions for the medical staff. They are somebody's business; in the past they have too often been nobody's.

CONCLUSION.

In conclusion, I think it right to explain that any remarks I have made should not be construed as reflecting any disappointment with the arrangements made between St. Mary's Hospital and my infirmary. So far as I am concerned, the scheme has worked smoothly and well, and it might be interesting to add that throughout the past year only one patient has complained of the presence of students.

II.

BY R. DUDFIELD, O.B.E., M.A., M.B., D.P.H. CAMB.,
MEDICAL OFFICER OF HEALTH OF PADDINGTON.

"Salus civium civitatis opes" may be bad Latin, but it expresses what is the guiding principle of my official work. I regard the health of the citizen as the greatest asset of the nation's wealth, and I therefore regard it as an economically unsound policy to leave sick citizens to their own devices.

PROTECTION OF THE PUBLIC HEALTH.

I thus believe it to be to the advantage of the community that the State should assume the care of the sick. In these days few would seriously dispute the State's right to take measures to prevent disease, and I think that it is becoming generally recognised that the care of the sick—which phrase I do not limit to the treatment of those who are acutely and dangerously ill—must be regarded as a national duty. There are, of course, sections of the population well able to take care of themselves. With those sections the State does not need to concern itself directly, though even for the sick among them the State should not fail to have some regard. There remains a larger section of the population, composed mainly of the producers of the nation's more material wealth, whose members are just able to maintain themselves when in full health and efficiency, but when overtaken by disability in any form are faced by poverty and, possibly, more or less permanent inefficiency. If the members of this section be adequately helped in the time of stress and their efficiency restored they can resume their places in the social world as producers. If they be neglected, they tend to become a burden and drag upon the community Self-protection should stimulate the community to look after the sick citizens and to take all reasonable steps to set them upon their feet again at the earliest possible minute.

Since the great stocktaking of national health which was incidental to the medical survey of recruits for the Services, much emphasis has been laid upon the necessity of searching for and treating the beginnings of disease. At present it is but rare for a failing man—who is not necessarily a sick man—to seek medical advice. Apart from the difficulty of finding money for the doctor's fees, the failing man fears an order to slow down in his activities, and he fears still more the financial stress which would inevitably ensue from such slowing down. We cannot expect to obtain sufficient material for the study of the beginnings of disease until the State steps in and relieves the failing man of some, at least, of his burden.

The State as a Charity Organisation Society.

It may be argued that these views would make the bulk of the population paupers. I admit that I personally am unable to appreciate the difference between State (or municipal) assistance and Poor-law relief—a distinction which is strenuously insisted upon by certain schools of thought. To my mind the only difference lies in the taking of money from the right pocket instead of the left. I would, however, ask you to look at the proposals from a different point of view. Why should not the State be regarded as a National Charity Organisation Society? The designation is not, perhaps, altogether a happy one, but it will serve my present purpose, as it connotes principles which I think should govern the relationship of the State to the failing and sick. I do not want to see the State taking over the whole of any man's responsibilities, but I do think it would be to the advantage of the community if the State came forward and gave so much help as would tide the man and his dependents over the hard times so frequently associated with disability of the bread-winner.

PROTECTION OF THE PUBLIC WEALTH.

In any such scheme of State assistance medical treatment would take first place. The home conditions of that section of the population whose sick should be the care of the State are rarely such as to afford the best chances of speedy restoration to health and efficiency. Too often the patient is in need of removal to a more favourable environment. Accommodation is provided in isolation hospitals for the dangerous infectious diseases, the object of such provision being not so much the treatment of the sick man but the protection of public health. My proposals imply the removal of the sick man for the *protection of the public wealth*, to secure his early return to full working capacity and, if humanly possible, to prevent him becoming a permanent burden on the State. I am not proposing that every failing or sick man should be provided with accommodation on the standard of our general hospitals. I should be satisfied with something far less costly which can, I think, be provided by the infirmaries—remodelled and improved as may be found necessary. Incidentally, I may observe that I am thinking of infirmaries as I know them, which means of the standard general in the metropolis. I have had opportunities of watching the improvements in standards and work of those infirmaries during the past 30 odd years. The infirmaries, or new hospitals, which is the term I would use for them, having been transferred from the Poor-law to the municipal authorities, should be managed by the ratepayers. I wish emphatically to dissent from the suggestion put forward by Mr. E. W. Morris that ad hoc authorities should be set up. We have had too many creations of such authorities in the past. At the present time London is seeking a way to get rid of some of them. Ad hoc authorities are too frequently wasteful in personnel and administration, and too often beyond the control of the ratepayers, who have simply to foot the bills presented to them and look as cheerful as they can. The existing authorities—county and municipal—are fully competent to undertake the administration of hospitals, and they will, I am convinced, do it more economically than any ad hoc authority. I suggest that the infirmaries be made into municipal hospitals, when they would fall naturally into place as "primary centres," should the scheme for the provision of medical treatment embodied in the "Dawson Report" ever be brought into operation.

THE COUNTY COUNCIL AS AUTHORITY.

If the infirmaries be taken from the Poor-law, to which authority should they be transferred? In dealing with this question I speak as a London man, preferring to leave extra-metropolitan policy to be thrashed out by those who are better acquainted with the needs and circumstances of extra-metropolitan areas. The Maclean Report (1918) recommended that the infirmaries in London should be transferred to the County Council. The recommendation was endorsed by the Conference of Representatives of Metropolitan, City, and Borough Councils in June last. Although apparently not in harmony with the general tendency towards decentralisation and strictly local self-government, there is a good deal to be said in favour of the recommendation. There is a growing tendency to make the County Council the authority for providing treatment in residential institutions for residents in the county. In the present instance I think that the transference to that Council will lead to economy, firstly, because it is probable that fewer infirmaries will have to be taken over, and, secondly, because probably fewer beds would thus remain empty.

The Medical Staff.—Linking-up.

There can be no doubt as to the necessity of a resident medical staff, the personnel of which will depend on the number of beds and, possibly, the class of cases for which the hospital is reserved, if any classification of hospitals be introduced. I do not consider that the whole of the visiting staff should be consultants. I should like to see the local practitioners acting as visiting physicians and surgeons. Here I join issue with Dr. Charles Buttar, who appears to have doubts as to the possibility of such proposal. Local practitioners are very successful in working hospitals in the smaller provincial towns, and I cannot see why they should not be equally successful in the new hospitals. I should propose that rotas be formed of those practitioners willing and, might I add, fit to work in the hospitals, and that they take limited periods of duty. It might conceivably be possible to allow an individual practitioner not on the staff of the hospital to continue his treatment of his patient after admission, should the doctor and patient so desire. It should not be beyond the wit of man to frame the rules necessary to meet the special case. The experiment of linking the local infirmary to St. Mary's Hospital has been so successful that there can be no doubt that such linking-up will become general in the future. The staffs of the general hospitals so linked to the new hospitals will become the consulting staffs of the new hospitals; the association of students with the new hospitals will then be taken as a matter of course.

Conditions of Admission.—The Voluntary Principle.

I doubt whether the general hospitals will be able to rely upon voluntary contributions much longer, and it is probable that the establishment of the new hospitals may hasten the time when the general hospitals will be obliged to accept municipal or State help. When that time comes the general hospitals will admit ratepayers on the same conditions as the new hospitals, and transfers between the two classes of hospitals will be regarded as quite usual. Until that time I should like to see some system of priority of admission to the general hospitals accorded to special patients in the new hospitals.

Every ratepayer, subject to conditions to be stated later, should have the right of admission to the new hospitals, if such admission be certified as necessary by the practitioner in charge of the case. I do not mean that a ratepayer to whom a certificate may be issued should be able to go to the hospital with the certificate in his hand and demand, and obtain, a bed. The applications and certificates will have to be sent to an official charged with the regulating of admissions. Control will be necessary to prevent irregularities in admission and will be the more necessary if any allocation of hospitals to groups of disabilities be adopted. A central control will be required to prevent any one hospital being overpressed with cases while another hospital stands half full. Whenever a complete scheme of convalescent homes, &c., becomes operative, central control will be required to regulate the flow of patients from one institution to another.

I have said that every ratepaper should have a right to admission to the new hospitals. Such right should not, I think, mean free treatment in every case. Whether or not the new hospitals afford more than one standard of accommodation—the treatment would be the same for all—the principle of assessment, now enforced by the County Council in connexion with the treatment of the uninsured tuberculous, should be adopted with regard to admission to the new hospitals. If all paid

in proportion to their means, the cash received plus the amounts paid by the Insurance Committee on behalf of insured persons would materially lighten the burden of the new hospitals on the rates.

While no one would be compelled to enter hospital, I think that entry into hospital should, in cases for which hospital treatment may be certified necessary or desirable by the medical attendant, be made a condition precedent to the granting of financial help to the sick man's dependents. State help for the dependents is, in my opinion, an essential for the success of the scheme I have outlined, but the State is bound to consider economy. It would be wasteful to make grants when the practitioner certifies (in effect) that the sick man's recovery will be prejudiced or delayed by his remaining at home.

CONCLUSION.

I have endeavoured to show how the infirmaries can be rendered more useful after transfer, which I regard as practically certain. Dr. C. M. Wilson intimated in his opening remarks that there is some risk of the policy with reference to the infirmaries being settled to meet political exigencies. I incline to the opinion that a well-considered scheme prepared by the profession, in consultation with the officials, will be preferred by the public to a scheme prepared by politicians based on theoretical considerations. I think we may claim first that we know the medical necessities of the people, and, secondly, that we still possess their confidence.

AN INVESTIGATION OF THE CAUSE AND RELIEF OF PAIN IN GASTRIC ULCER.*

BY E. P. POULTON, M.A., M.D. OXON., F.R.C.P. LOND.,
BEIT MEMORIAL RESEARCH FELLOW; ASSISTANT PHYSICIAN, GUY'S HOSPITAL.

THE object of the present communication is to show that an important element in the pain of gastric ulcer is due to distension of the stomach, and can be abolished by reducing the intragastric pressure. Two methods have been adopted in this investigation: 1. A fine rubber tube similar to that used for withdrawing stomach contents in the fractional test-meal method is passed into the stomach. There is some lead in the lower end of the tube, so that it can be localised by means of X rays. Air or oxygen is passed into the stomach through the tube from a reservoir connected with a water manometer, so that the pressure exerted by the air current can be measured. The patient is asked to describe his sensations, whether of fullness or pain, while his stomach is being distended. 2. The patient is asked to pass a similar tube into the stomach when pain is experienced, and in many cases the pain is relieved within a few minutes by release of pressure. The tube should contain a series of holes extending from its end in the stomach upwards as far as the cardiac orifice. Stomach contents may be regurgitated through the tube. The gastro-duodenal tube is a modification of the gastric tube. It connects the stomach with the duodenum, so that pressure is equalised through the pylorus. It is about 2 feet long, and contains holes about 1½ inches apart throughout its length. Both ends are made opaque to X rays by means of short pieces of thick lead fuse wire placed inside the tube between glass beads (in order to keep the digestive juices away from the lead) and securely fastened with silk. To one end of the tube is attached a piece of silk about 27 inches long. The end of the tube not attached to the silk is passed into the stomach, and it then usually passes quite readily through the pylorus. The upper end of the tube is then anchored in the stomach 22 inches from the lips by means of the silk, which can be fastened round the ear or round a dental plate or pinned on the dress. The position of the tube can easily be determined by skiagraphic examination after the stomach has been outlined with a little barium sulphate suspension. It is important not to pass this tube too quickly into the stomach, as if the proximal end reaches the stomach before the distal end has reached the pylorus the tube may become tied into a knot and fail to get through at all. The ordinary thin rubber tubing gets readily acted on by the digestive juices, and such a tube does not usually last more than two or three weeks if kept in position most of the time. It should be removed and examined at least once a week. The thicker-walled tube, introduced by Dr. J. A. Ryle for fractional test meals, is much more durable.

At the outset it should be pointed out that it is not claimed at this stage that the use of these tubes should become a general method of treatment for peptic ulcer. The usual methods of medical treatment are most satisfactory, and of these methods rest in bed is possibly the most important of all. In these circumstances pain usually disappears completely, and in several instances the writer has obtained radiographic evidence of the ulcer becoming less, and completely disappearing in a few weeks. His thanks are due to Dr. Lindsay Locke for some of this evidence. This treatment by means of the tubes has been brought forward rather as evidence of his main proposition, that the pain in gastric ulcer is often chiefly due to distension from increased intragastric pressure and as a preliminary to further work on the subject. To show that the other factors concerned with the relief of pain were absent in the cases it should be stated that the patients were mostly out-patients, some of them doing their usual work; that they came up complaining of pain, that they were encouraged as far as possible to take ordinary food, and that to begin with, at any rate, no drugs were given. Later on in some cases olive oil and liquid paraffin were ordered.

Effect of Intragastric Pressure on Gastric Pain.

The effect of intragastric pressure on gastric sensation has been described by Dr. A. F. Hurst,[1] in the case of two healthy people. He passed air into the stomach, using the kind of apparatus already described, with the exception that a mercury manometer was used instead of a water manometer. The latter is, of course, more delicate owing to its wider range of movement. The sensation produced by such means was one of fullness. The stomach then accommodated itself by becoming larger, the pressure fell, and the feeling disappeared, only to return again when the pressure was raised by passing more air into the stomach. Dr. Hurst observed that there was no sensation of pain accompanying the fullness, except when the stomach was suddenly distended with a large volume of gas, as in the case when sodium bicarbonate and tartaric acid were swallowed immediately after one another. He suggested that gastric pain was more commonly produced by the distension of a part of the stomach, for instance, at the pyloric end, when the active peristaltic wave is on the point of forcing some of the stomach contents through the pylorus. The present observations point to the general intragastric pressure as being of considerable importance in the production of pain in gastric ulcer. Exactly the same variation in the feeling of fullness as that described by Dr. Hurst has been noticed many times in the present series of observations; and in cases where there was reason to believe that no active ulceration was present a sensation of fullness was described, but no pain.

CASE 1.—G. W., a woman, aged 36. In Guy's in 1918. X ray: Tender lesser curvature projection with constriction of greater curvature. The projection had disappeared by the end of her stay, but the constriction remained. Nov. 22nd, 1920: Patient had been free from symptoms for some months. X ray: Midgastric constriction seen with slight tenderness on lesser curvature. There was probably cicatrisation present. Gastric pressure test: 500 c.cm. passed in at 12 cm. pressure. No effect. Another 500 c.cm. were then passed in the pressure, gradually falling to 8 cm. A sensation of fullness noticed but no pain at all. At the end it was seen that the tube had penetrated into the lower compartment of the stomach. Both compartments were much dilated.

CASE 2.—N. B., a woman, aged 51, under the care of Dr. H. French. Indigestion since 30 years old. Attacks of pain in epigastrium and lower down over the umbilicus. Pain is worst if she has wind. When examined she had had no pain at all for six or seven weeks. X ray: Hour-glass stomach with slight tenderness on pressure at

* A paper read before the Medical Section of the Royal Society of Medicine on Jan. 25th, 1921. The expenses of this investigation were defrayed by a grant from the British Medical Association.

the site of the constriction on the lesser curvature. The tube when passed was entirely in the upper compartment of the stomach. Gastric pressure test: 400 c.cm. passed in at 20 cm. pressure. Feeling of distension relieved by eructation, no pain at all. Operation by Mr. C. H. Fagge a few days later. Cicatricial hour-glass stomach found, with thickening at pylorus. On opening stomach for gastroplasty the scar of a healed ulcer was seen on the lesser curvature at the site of the constriction.

CASE 3.—D. R., a woman, aged 30. Since 24 years old she has complained off and on of fullness of stomach and nausea, and difficulty in bringing up wind, with dull pain and tenderness in epigastrium. She is greatly relieved by a belt. X ray: Stomach dropped and atonic; lesser curvature below iliac crest. Stomach empty after 4½ hours. No evidence of ulcer. Gastric pressure test: 110 c.cm., and later 330 c.cm., of air introduced at 6 cm. pressure. Feeling of fullness to the right of the umbilicus, and wind eructated with much relief. No pain experienced at all. She had been resting in bed and her symptoms had greatly improved before the test was carried out.

In another case complaining of hunger pains where there was X ray evidence of duodenal ulcer the introduction of 300 c.cm. at 20 cm. pressure into the stomach caused much distension, but no pain. This is to be expected, since the ulcer would not be affected by the stretching of the stomach wall. Sixteen cases have been examined by this method (Table I.), in all of

TABLE I.—*Examination of 16 Cases of Active Ulceration in Regard to the Presence or Absence of Pain on Distending the Stomach with Air.*

Position of ulcer.	No. of cases.	Increased pressure in stomach pain = +		Notes on cases with no pain response (−)
Lesser curvature.	8	7 +	2 −	One case + − on different occasions.
L. c. acute.	(1)	1 +		—
L. c. and gastro-jejunostomy.	2	2 +	1 −	One case healing.
Stomach, near pylorus.	3 (1)	2 +	1 −	One case showed temporary improvement.
Pylorus.	2	2 +		—
—	16	14 +	4 −	—

(1) X ray: localised tenderness only present.

which there was good evidence of active ulceration in the stomach, not only from the description of the symptoms, and often from the presence of occult blood in the fæces, but from skiagraphic examination. The criterion of an ulcer has been taken to be the appearance of a projection from the stomach shadow, usually on the lesser curvature (or sometimes an irregularity in the neighbourhood of the pylorus), which is constant in position and tender on pressure. Occasionally no projection was seen, but localised tenderness made the diagnosis probable. When there are cases of this rather doubtful nature in a group their number is indicated by the bracket in the second column. When air was passed into the stomach these patients experienced a feeling of fullness, but in addition their characteristic pain was noticed, and this disappeared on again releasing the pressure. Care was taken in performing the test to ask the patient whether the distension experienced was greater than they had ever felt before. The reply always was that on previous occasions they had experienced much greater distension than was felt at the time of the inflation.

Of the 16 cases examined, 14 described the onset of their characteristic pain in addition to the feeling of fullness, though the pressure at which this occurred was very variable. The following cases show this in detail.

CASE 4.—J. F., a man, aged 40. November, 1919: Pain in epigastrium 30 minutes after a meal. Feeling of distension and vomiting. Symptoms continued off and on till Oct. 1st, the pain between June and October being described as unbearable. X ray: Small tender projection on lesser curvature. Stomach contents contain blood. Occult blood in fæces. Gastric pressure test: On two occasions positive, pain being noticed in middle line above umbilicus; on one occasion negative. About 200 c.cm. of air passed in at 20 cm. pressure. Gastric tube given on Oct. 1st, and a gastro-duodenal tube later. Relief from pain and flatulence. Patient prefers the g.-d. tube, and only uses the g. tube if he gets an attack of pain. Jan. 7th, 1921: Has not been so well for three weeks, but has not been up to report: His tubes have been perishing and the g.-d. tube broke away 10 days ago. X ray shows small tender projection still present. Jan. 21st: Has had g.-d. tube for the last week, and has had no attack of pain, except on one occasion.

CASE 5.—M. C., a woman, aged 44. Dyspepsia when 18 and nearly continuously since then. Pain in epigastrium and beneath left costal margin. Perforation of gastric ulcer on April 20th, 1920, and pain and vomiting were specially severe for some weeks before this. Ulcer stitched up and gastro-jejunostomy performed. Has been ill again the last two months. X ray: Gastro-jejunostomy acted well. Tender projection on lesser curvature of stomach. Food does not leave by pylorus. Stomach empty in five hours. Test meal: No free HCl in stomach contents. Dec. 2nd: Gastric pressure test: 150 c.cm. at 10-15 cm. pressure. Pain beneath left costal margin disappearing on releasing pressure. On Dec. 15th 400 c.cm. passed into stomach; a feeling of distension but no pain. She is better, but has been lying in bed. Relief from g. and g.-d. tube, the latter seen in position, passing through gastro-jejunostomy opening. Jan. 13th, 1921: Ulcer projection cannot be seen, but the spot is still tender. She has had no pain since Dec. 15th, and has been up all the time on ordinary food.

CASE 6.—P. F., a man, aged 61. Ten years' history of indigestion. 1916: X ray: 2/3 of barium in stomach at end of seven hours. Operation: Gastro-jejunostomy for peptic ulcer. I saw him for return of symptoms November, 1917, till July, 1918. Much ærophagy. I saw him again March, 1920, and he was much worse. June, 1920: Second operation. Ulcer found on lesser curvature adherent to liver. Stomach opened and ulcer cauterised. Operation unsuccessful in relieving symptoms. October: X ray: Tender projection on lesser curvature. Stoma acts quite well. Stomach contents bile-stained, with absence of free HCl. Gastric pressure test: 250 c.cm. at 10 cm. pressure which showed great variations. Characteristic pains observed. G.-d. tube would not pass through the stoma. He gets some, but not complete relief from gastric tube. This patient suffers much from aerophagy, taking air into the stomach by repeated attempted eructations. On one occasion when he had pain the stomach was noticed much distended without any air being introduced. The manometer attached to the g. tube registered big excursions, the pressure reaching up to 24 cm. on respiration, while it was 10 to 14 cm. when the breath was held. The tube was kept attached to the manometer for a quarter of an hour and no difference in the pain was felt. The pain felt a bit easier three minutes after disconnecting so as to allow the air to escape by the tube, and had completely gone in 23 minutes.

CASE 7.—E. C., a woman, aged 31. In Guy's two years ago for gastric ulcer; pain half an hour after meals. September, 1920: Tender mid-gastric projection on lesser curvature. Nov. 19th: Gastric pressure test 500 c.cm. at 10 cm. pressure. Fullness and characteristic pain in epigastrium and in her back. Jan. 14th, 1921: She gets relief from pain and wind from the g. tube. During the last week has used it every morning for half an hour.

CASE 8.—A. J., a man, aged 31. Pain in epigastrium and round umbilicus for five years off and on. Two previous X ray examinations not very definite. Was previously in Guy's as an in-patient. X ray: Tenderness definitely marked on the stomach side of pylorus. Fæces: Occult blood present. Stomach empties very rapidly. Gastric pressure test: 200 c.cm. at 10 cm. Typical pain in epigastrium which disappeared on releasing pressure. Relief from g. and g-d. tubes. Sometimes after they are not effective he has pulled them up and found them blocked.

Of course, the pressure of the gas entering the stomach is only a very rough way of gauging the intragastric pressure, and it is intended to carry out further observations by means of a more accurate method. Of the two cases who did not feel any pain one showed temporary improvement in his symptoms at the time of the observations, but relapsed later. Two of the other cases failed to respond, when they were improving. One case (l.c. acute) is of particular interest as he is a medical man. After an attack of diarrhœa he suddenly developed pain beneath the left costal margin, coming on one and a half hours after meals, and made worse if ordinary food were taken. This pain had lasted for three weeks. X rays showed that the lesser curvature of the stomach was tender in one spot, but it was doubtful if a projection was seen. The stomach was normal in position. It was thought that he probably had an acute ulcer. Pain was absent when the tube was passed. 200 c.cm., and later 300 c.cm., of air were passed in at 20 cm. pressure. He noticed the appearance of his characteristic pain as well as a feeling of fullness. After the examination, possibly on account of the large amount of barium sulphate given, his pain was permanently arrested.

It might be thought that the gastric-pressure test would provide a valuable means of diagnosing *active* ulceration of the stomach, but, although a negative result may be of value in excluding such a condition, it does not follow that a positive result means a gastric lesion. Thus, in the case of Mary B., aged 65, under the care of Dr. French, complaining of abdominal pain, the latter was definitely increased on passing 100 c.cm. into the stomach and was lessened again by relieving the tension. Operation disclosed a carcinoma of the pancreas, and the post-mortem showed that the stomach was normal, no trace of any acute or chronic ulcer being seen.

With regard to the second method of investigation—viz., the relief of pain on passage of one or other of the

tubes—observations have been made on 16 cases. They are summarised in Table II., and certain illustrative cases are described more fully. It is not claimed that

TABLE II.—*Examination of 16 Cases of Active Ulceration in Regard to the Relief of Pain on Passing a Tube.*

Position of ulcer.	No. of cases.	Relief of pain.	Unsuccessful.
Lesser curvature.	8 (1)	6	Two cases disliked tube; one was very advanced.
L.c. and gastro-jejunostomy.	2	2	—
Stomach, near pylorus.	4 (1)	3	?1 unreliable.
Pylorus.	2 (1)	2	—
—	16	13	—

(1) X ray; localised tenderness only present.

complete relief from pain was obtained in all the 13 cases of Column 3. There may be other factors in its causation. But the patients were satisfied that the tubes were beneficial and that they often prevented the onset of pain. Of the three unsuccessful cases one was unreliable, since every two or three days fresh pains appeared in different parts of the body. One was a very advanced case of saddle-shaped ulcer of the lesser curvature found at operation; gastro-jejunostomy was not done. He disliked the gastric tube intensely, and received no benefit from it. The other patient also disliked the tube and has since improved without it.

Effect of Intragastric Pressure on Continuance of Ulceration.

So far it has been shown that pain in gastric ulcer can be produced by only moderately distending the stomach, and can be relieved by releasing the pressure. Is there any evidence that gastric pressure is responsible for the continuance of the ulcer? At present the cause of chronic gastric ulcer is a profound mystery. Clinical evidence is naturally hard to assess, and particularly in the case of gastric ulcer, which so often tends to heal of its own accord, at any rate for the time being. One of the out-patients has now for two months completely lost her gastric pain, which had recurred in July, 1920, after she had been successfully treated for it in hospital by rest in bed. The fæces now contain no occult blood. The other out-patients say they are better. Of 5 cases at present undergoing treatment in hospital 3 seem to have lost their pain completely; the other 2 still get some attacks. It is early to draw conclusions.

It will, however, be worth while to consider other evidence bearing on this point. Bolton[2] found experimentally that if gastro-toxic serum was used it was the HCl of the stomach that was responsible for the formation of the acute ulcer, which could be completely prevented if the stomach contained alkali. It is reasonable to look upon the HCl as an important factor in the causation of human peptic ulcer. But Bolton found it was not at all easy to produce an experimental chronic ulcer. The acute ulcer healed readily whether the stomach contained food soaked with acid or alkali, whether it was infected by bacterial cultures, or whether the animal was rendered anæmic. The only way to hinder the healing was to give meat instead of milk, or to produce artificially some degree of pyloric stenosis. These factors would both tend to cause a retention of food in the stomach; but they would also both lead to increased gastric pressure.

Bolton describes the shape of his experimental ulcers as that of a funnel or some modification of a funnel. Ulcers as seen by X rays often appear as funnel-shaped projections, and at other times present the form of sacs. These shapes can be explained on the intragastric pressure hypothesis; but Bolton's explanation, that they are due to action of the gastric juice, is not very satisfactory, because the latter would act evenly over the whole surface and not eat away more in the middle of the ulcer.

Bolton describes the experimental ulcer which is adherent to the pancreas as having a flat base, and suggests that this is due to some special resisting power on the part of the pancreas. But such a hypothesis is unnecessary if intragastric pressure is the cause, since the pancreas is a firm organ, while in most other positions the ulcer projects out against yielding coils of intestine. Gastric ulcers at post-mortem are usually described as having flat bases; but it does not follow that this is their shape during life inside the body.

The hydrochloric acid of the stomach has been considered to be the cause of chronic gastric ulcer, but while its concentration is usually increased in pyloric and duodenal ulcers, it may be quite low with ulcers in the body of the stomach, as has been pointed out by Bolton. Again, in two cases of ulcer on the lesser curvature, one recurring after gastro-jejunostomy, the test meal showed absence of free HCl, while in these cases a rise of pressure was obtained on passing air into the stomach, showing that the opening did not always remain patent. In both cases, however, food was seen to leave the stomach rapidly (see Cases 5 and 6).

It is possible to explain the beneficial effects of gastro-jejunostomy by the release of pressure, but it is not generally realised with what dramatic suddenness complete relief from pain may be achieved by this operation. In two cases of chronic ulcer of the lesser curvature, one associated with considerable gastric delay, the patients complained of intense pain while at rest in bed, in spite of dieting, and it was only possible to relieve this by morphia. Mr. R. Davies-Colley performed gastro-jejunostomy. Pain was completely relieved at once. It was in reflecting on these cases, and after a conversation with Mr. E. G. Slesinger about his work with Dr. Hurst, that the possible use of gastric and gastro-duodenal tubes suggested itself to the writer.

The perforation of a gastric ulcer may be due to acute distension of the stomach (Case 5). The patient states that for some weeks before perforation occurred she suffered from the most severe pains with wind, culminating in the final excruciating paroxysm when the ulcer perforated.

In 1918 the writer performed a post-mortem examination on a patient who had died of pneumonia about three weeks after an operation for chronic gastric ulcer on the lesser curvature. In this case the ulcer had been excised but no gastro-jejunostomy had been done, and the pylorus had been left intact. At the post-mortem examination it was found that the stitches had given way, and that the ulcer had re-formed in the middle of the incision. This can be explained on the hypothesis that the intragastric pressure had not been relieved.

Lavage has been frequently performed with benefit in the past for gastric ulcer. In a South African patient in whom the presence of gastric ulcer was proved by means of X rays Dr. Fouché prescribed lavage. The patient subsequently informed him that she found it unnecessary to wash out the stomach. The presence of the tube alone was quite enough to abolish the pain.

The writer wishes to express his best thanks to Dr. French and to the authorities of Lambeth Infirmary for facilities for investigating certain of their cases.

Conclusions.

1. An important element in the pain of gastric ulcer is due to distension of the stomach, and can be relieved by means of gastric and gastro-duodenal tubes.

2. Some evidence has been brought forward that chronic gastric ulcer is due to intragastric pressure.

References.—1. Hurst: The Sensibility of the Alimentary Canal Oxford, 1911. 2. Bolton: Ulcer of the Stomach, London, 1913: Proc. Roy. Soc., 1907, B. 79, p. 533; Proc. Roy. Soc., 1910, B. 82, p. 253; Journ. Bact. and Path., xiv., p. 424. 3. Hurst, Cook, and Slesinger: Journ. Physiol., 1908, xxxvii., p. 481.

BRISTOL DISPENSARY.—The annual report of the Bristol Dispensary states that during 1920 the patients treated reached the record number of 10,324. The expenditure unfortunately exceeded the income. Dr. R. Shingleton Smith, honorary consulting physician to the institution, whose active interest has for many years been unstintingly placed at the service of the charity, has resigned from the committee owing to ill-health.

THE INDUCTION OF ABORTION.

BY SIR JOHN PHILLIPS, M.A., M.D. CANTAB., F.R.C.P. LOND.,

HONORARY PHYSICIAN TO H.M. QUEEN MARY; CONSULTING OBSTETRIC PHYSICIAN TO KING'S COLLEGE HOSPITAL; AND EMERITUS PROFESSOR OF OBSTETRICS IN KING'S COLLEGE.

THE induction of abortion, by which may be understood the interruption of pregnancy before the viability of the child has occurred, is a subject which has been widely debated and concerning which many diverse views have been, and still are, held. On the one hand, we have those who consider that the operation should under no circumstances be performed; on the other, there are those who are of opinion that there are a certain number of cases in which the operation, repugnant as it is to the conscientious practitioner, is not only indicated, but is absolutely necessary to save maternal life.

Definition.

As a preliminary, it would be as well to make an accurate definition of the word *abortion*, which is apparently derived from the Latin word *abortus*, the past participle of the verb *aboriri* (to fail to appear or fail to be born).[1] The word *abortion* is generally conceded as including all cases where the termination of labour occurs before the twenty-eighth week. This period may be conveniently subdivided into cases occurring before the twelfth week—i.e., just before the complete formation of the placenta, and usually termed "embryonic" abortion, and those that take place from the twelfth to the twenty-eighth week, termed "fœtal" abortion, or miscarriage.[2] In this paper I have preferred to use the word abortion as an inclusive term for both groups.

My own experience of this operation during a period of 35 years of private practice has been limited to 57 cases, a summary of which I append: acute albuminuria, 18; glycosuria, 2; uncompensated cardiac disease, 11; incoercible vomiting, 15; acute salivation, 1; chorea, 1; placenta prævia, 6; cancer of the breast, 3. In all these cases a consultation was held, and complete agreement was reached that artificial abortion was the best, indeed the only, course to pursue to save maternal life. No maternal mortality occurred in this series of operations.

In Dr. W. (later Sir William) Priestley's list of indications for abortion[3] he mentions marked pelvic deformity; this pathological condition is now, of course, better treated by the performance of the improved Cæsarean section at or about term.

Albuminuria.

In all these cases very much the same train of symptoms showed themselves—headache, difficulty of vision, and, later on, puffiness of face, hands, and feet, with an increasing amount of albumin and casts. To these were added, in two cases, signs of mental instability, which somewhat hastened interference. All were treated in the usual way—by rest, diet, and the various drugs employed in these cases, but rapid increase in the disease took place. Fortunately, in none of them did any convulsions occur; the albumin disappeared within 14 days of operation in 12 cases; in the remainder it persisted for some weeks. In three instances commencing molar changes were discovered, and in three others areas of thrombosis were present in the placenta.

Glycosuria.

Induction was carried out in these cases for rapid increase in the already existing disease, emaciation and great thirst being the two marked symptoms, with red tongue and sordes round the mouth. Obviously, the pregnancy had a stimulating effect on the formation of the sugar, and although treatment was prolonged in both cases until the end of the fifth month it was clearly unsafe to allow the pregnancy to go on longer.

Uncompensated Cardiac Disease.

The time of selection for induction of abortion in this class of case is very difficult to determine. In all those in which it was performed dyspnœa, œdema of the feet, and slight albuminuria, with duskiness of the face and purplish colour of the lips, were present before the completion of the fourth month. Several of the patients were invalids before the pregnancy began. The pathological conditions necessitating interference were as follows: double aortic disease in four instances, aortic and mitral stenosis in five, and mitral regurgitation in two. In all of them relief of the symptoms followed the operation; in four, however, the natural progress of the disease led to a fatal result after a lapse of about 12 to 15 months.

Incoercible Vomiting.

This complication I have found to be one of the commonest reasons for induction of abortion. All the cases commenced with nausea and sickness before eight weeks of the pregnancy had passed. In all of them the course run was fairly acute, and induction was found necessary before the twelfth week. The symptoms of gravity which led me in each case to recommend the operation were a slightly rising temperature at night, a peculiarly anxious look in the face, rapid wasting, and a dry reddish tongue. In nine cases the sickness ceased within a week of the operation, but in the remaining six it persisted in a mild form until menstruation appeared. In all of them every kind of local and general treatment was tried, including the application of strong tincture of iodine to the cervix and the insertion of cocaine pessaries. I believe that the great danger in the treatment of these cases is delaying interference, and, although I did not have the misfortune to lose a case, three of them would certainly have been the better for induction a week earlier. All these cases were under 30 years of age, and all primigravidæ except two, in which latter the operation had to be performed twice for the same ailment: in five others pregnancy again occurred, but although the sickness was severe it did not call for interference. Slight albuminuria was present in 6 of the 15. In 2 cases some old hæmorrhage was present in the decidua, but in the remainder no pathological condition could be found. In 12 cases the uterus was in normal situation and anteflexed to a greater or less degree; in the remaining 3 retroflexion was present; in 2 of the latter re-position and the insertion of a pessary failed to relieve the symptoms; in the other, anterior suspension of the uterus was carried out after the first pregnancy, but in spite of the operation the sickness was as severe as before.

Acute Salivation.

During the early months of pregnancy and almost synchronous with nausea and vomiting, a more or less amount of salivation is very common. As a rule it ceases with the sickness and does not often incommode the patient to any serious extent, but on rare occasions it leads to such a serious state of health as to necessitate interference. I have only met with one such case. The patient, aged 30, was a IV.-para, and of highly nervous temperament, but otherwise enjoying good health. Her first pregnancy was quite normal. In the second a parovarian cyst was removed in the third month, when salivation commenced and continued throughout the pregnancy. Salivation also complicated the third pregnancy, which resulted in a miscarriage. In the fourth there was profuse salivation throughout, and confinement was rapid and easy. In the fifth salivation was much more profuse than formerly, and a rough measurement on two occasions showed a secretion of over two quarts in 24 hours. Examination of the secretion gave no abnormal reaction, except excess of water; no albumin was present. The uterus, which was retroflexed, was replaced and supported by a pessary, but without benefit. Sleeplessness and rapid loss of flesh were prominent features of the case, and, finally, commencing mental disturbance rendered induction necessary at the tenth week. Salivation went on

[1] Vide also Dorland's American Illustrated Medical Dictionary.
[2] Vide Text-book of Obstetrics. Edited by Richard C. Norris and Robert L. Dickinson. 1898.
[3] The Induction of Abortion as a Therapeutic Measure, Obst. Trans., vol. xxii. for 1880, p. 271.

for 14 days continuously after the abortion and recurred at every menstrual period afterwards for several months.

Chorea.

This patient, a young primigravida, aged 25, had when aged 15 suffered from an acute attack of chorea, with rheumatic symptoms, but uncomplicated by any cardiac disease. Subsequent to this illness she was subject under excitement to a certain amount of twitching of the face and hands; otherwise she was in perfect health. Shortly after marriage, when she had missed three periods, distinct choreic movements began, champing of the mouth and slobbering being the prominent symptoms. As in the late Dr. M. Handfield-Jones's case,[4] no medicinal treatment appeared to have any effect upon the complication. Her mental condition remained quite clear until about the eighteenth week, when decided symptoms of acute mental disturbance presented themselves. Induction of abortion was therefore carried out by means of rapid dilatation and the insertion of a de Ribes bag, control of her limbs and body being maintained by the use of blankets and sheets. Immediately after the expulsion of the ovum all bad symptoms rapidly disappeared, and although the choreic movements lasted for nearly six weeks and recurred for nearly a year under any excitement, she ultimately made a good recovery.

Placenta Prævia.

In all six cases profuse hæmorrhage, without warning, was the urgent symptom, and the pathological condition was suspected. In three of the cases the position of the placenta was actually diagnosed from the sixteenth to the eighteenth week, owing to a certain amount of cervical dilatation being present, and induction of abortion (fœtal variety) was at once carried out, a small de Ribes bag being used as the provocative agent.

Cancer of the Breast.

Of late years it has been urged by surgeons that in a woman who has had a breast removed for cancer it is most undesirable to allow the remaining organ to be stimulated by the onset of pregnancy. Although I am not in full accord with this course, I think it is a proper proceeding to induce abortion in the case of a young woman with a rapidly growing form of carcinoma, but it must be done in the earlier stages of pregnancy to be of any efficacy. I have carried this out in three instances, but I think that the pros and cons in every case should be carefully weighed and no general rule followed.

Mental Aberration.

There are two classes of case which require well-balanced consideration as to the best course to pursue—namely, mental aberration and a retroflexed impacted gravid uterus. Mental aberration is even more important to the alienist than to the obstetrician, and when it occurs during the early stages of pregnancy it is chiefly due to the result of exhaustion from emotional shock, anxiety, or physical disease, with consequent insomnia. I have been in the habit of dividing such cases into three groups: 1. "Border-line" before marriage, which, on pregnancy ensuing, very soon develop definite symptoms. 2. Those who, though perfectly healthy in all respects before marriage, have been subjected to severe nerve stress, and on becoming pregnant develop mental symptoms. 3. Those who, though normal mentally and with a good family history, on becoming pregnant develop an exhausting illness, such as chorea, uræmia, obstinate vomiting, or acute salivation, and begin to show signs of impending mental disturbance, of which they themselves are cognisant. I entirely agree with Sir Maurice Craig[5] that if induction of abortion is to be carried out in these cases it should be done early—that is, before the tenth or twelfth week of pregnancy (embryonic abortion). There is no doubt that induction may easily be deferred so long that the patient's prospect of recovery is much diminished. Dr. Craig further advocates the free use of sedatives, opiates excepted, up to the time of abortion or delivery and for some time subsequently. It is difficult to generalise on the treatment of these cases, and each one should be considered on its merits.

Retroflexed Impacted Gravid Uterus.

This particular complication is mentioned by Dr. Priestley in his paper[6] as a reason for abortion; at the same time he adds: "It should, nevertheless, be distinctly understood that the mere existence of this form of displacement and the impossibility of immediately reducing it does not necessarily call for induction of abortion; only when it gives rise to grave symptoms, imperilling the life of the patient, is it permissible." It must be remembered that a large number of cases which apparently are permanently impacted become spontaneously reduced as the pregnancy progresses. Moreover, in Oldham's well-known case labour[7] at full time was terminated successfully with the uterus still in the impacted retroflexed condition. The symptoms accompanying this complication are said to be very grave, but I have never personally met with a case in which interference was necessary, nor can I see how induction of abortion could be carried out with a cervix pressed firmly into an œdematous anterior vaginal wall, preventing the introduction of any instrument into the uterus. Should such a case be encountered I believe the only course is to open the abdomen and lift the pregnant fundus out of the pelvic cavity. I have seen two cases in which, the abdomen having been opened for what was supposed to be an impacted ovarian cyst complicating pregnancy, it was found to be quite easy to raise the pregnant fundus out of the pelvic cavity.

Other Conditions.

There are certain complications of pregnancy which are thought by a limited number of authorities to indicate induction of abortion. I allude to phthisis, general tuberculosis, epilepsy, conditions leading to paraplegia, and, finally, cases in which previous labours have resulted in the birth of congenitally deformed or mentally deficient children.

At a meeting of the Obstetrical Society in 1890 Dr. William Duncan read a paper on "Should Pregnancy be Terminated Prematurely in Cases of Phthisis?"[8] In this he related a case in which he induced abortion by the rapid method in a woman with phthisis who was eight to ten weeks pregnant. In the discussion which followed no less than nine teachers of obstetrics in London hospitals gave their views on the advisability of such a proceeding, and all, without exception, expressed disapproval, the chief argument used being that there was no proof at present forthcoming to show that the onset of pregnancy in any way accelerated the progress of the pulmonary disorder. I think the majority of observers will be in accord with this statement, and I, personally, have never met with a case in which I could see that any benefit could possibly arise by interference with the pregnancy. The same may be said of general tuberculosis.

With regard to epilepsy, I do not think there is any distinct evidence that the fits become more frequent or more severe in character as the result of the onset of pregnancy, and I should therefore consider this variety of case as one in which it would not be desirable to interrupt the course of pregnancy.

Concerning paraplegia, experience is against interference, and this opinion is amply supported by Dr. Amand Routh's paper,[9] in which he describes a case which was under his observation during the latter eight weeks of pregnancy and during the labour and puerperium. There was no diversion from the normal throughout.

Lastly, in regard to congenitally deformed and mentally deficient children, I think a similar opinion may be expressed. The most marked instance which came under my notice was one in which the prospective mother had a peculiar deformity of the fingers, both

[4] Obst. Trans., vol. xxxi. for 1 9, p. 243.
[5] Private communication to author, 1920.
[6] The Induction of Abortion as a Therapeutic Measure, Obstet. Trans., vol. xxii. for 1880, p. 271.
[7] Obstet. Trans., vol. i., 1860.
[8] Ibid., vol. xxxii., p. 7.
[9] Ibid., vol. xxxi., p. 191.

her mother and her own children were similarly affected. A distinguished authority, who was consulted as to the question of abortion, very wisely advised against it. I attended the patient in her confinement and the child was born without any deformity.

Technique.

In spite of antiseptics and modern improvements the induction of abortion must be considered as an operation attended by definite danger. The chief risks are septicæmia, sapræmia, septic peritonitis, deep laceration of the cervix, followed by para- or peri-metritis, perforation of the uterine wall, thrombosis, and embolus (blood or air), and the operation may often be followed by a long period of ill-health but without any definite symptoms. The procedure differs somewhat according to the period of pregnancy at which it is performed, either before the twelfth week (embryonic abortion), or from the twelfth to the twenty-eighth week (fœtal abortion).

There is no doubt that every precaution must be used in the operation, and the former common custom of producing abortion by the introduction of a uterine sound, or by injecting tincture of iodine or other fluids, is attended with the greatest risks and cannot be sufficiently condemned.

Early cases.—The patient should be placed in the lithotomy position, the cervix pulled down with a volsellum, and, according to the operator's choice, one or more laminaria tents inserted into the cervix, or rapid dilatation of the cervix carried out with graduated bougies. A pair of polypus or ovum forceps should then be introduced into the uterine cavity, and the whole mass can then usually be removed in one piece. On examination of the removed abortion, should there be any suspicion of a portion of the ovum being left behind, it is better to pass the finger right into the uterus up to the fundus, to be quite sure that the cavity is empty and that no second ovum is present. The operation may be completed by washing out the uterine cavity with tincture of iodine, one teaspoonful to the pint, or swabbing it out with iodised phenol. I do not think, however, that either of these is absolutely necessary. Packing the uterine cavity with sterilised gauze was formerly much in vogue, but is, I think, undesirable. Its object was to produce uterine contraction, but this is better brought about by the injection of pituitary extract or ergot at the end of the operation. Anyone who has smelt the gauze removed from a uterine cavity, even 24 hours after the operation, will have been struck by the often offensive odour which emanates from it.

The question of performing curettage is one on which there is much diversity of opinion. Personally, unless there is some molar change in the ovum, I do not think it should be carried out as routine practice.

More Advanced Cases.

In the more advanced cases I think laminaria tents are usually preferable to rapid dilatation, and after removal of the tent and sufficient dilatation of the cervix I insert a specially made small de Ribes bag, which not only ensures the initiation of labour pains, but in cases of placenta prævia safeguards the patient from the results of hæmorrhage. As an argument in favour of this method I know of no more difficult vaginal operation than the removal of a 16–20 weeks' pregnancy by means of ovum forceps after rapid dilatation. The fœtus has by then attained to considerable size, but is still soft in consistence, with a much-enlarged head attached to the body by an easily torn-through neck, and in delivering the fœtus the head may be left behind; this will often defy removal owing to the difficulty of seizing it with any form of forceps at present devised. Much manipulation is necessary in these cases, and bruising and skin-sloughing may result and some form of sepsis ensue.

BRISTOL MENTAL HOSPITAL.—The Bristol Lunatic Asylum at Fishponds will in future be known as the Bristol Mental Hospital. The institution was opened in 1861, at a cost of £40,000, and then accommodated 200 patients. It has been enlarged on several occasions, and now provides room for nearly 1000 patients.

THE INCISION FOR APPENDICECTOMY.

BY NORMAN C. LAKE, M.D., M.S., D.SC. LOND., F.R.C.S. ENG.,

ASSISTANT SURGEON, CHARING CROSS HOSPITAL; SURGEON, QUEEN'S HOSPITAL FOR CHILDREN.

THE technique of operations which are performed very frequently tends to become rigidly stereotyped, and while we all have our eyes open to the advantages of a "set" operation, we are unfortunately often blind to its disadvantages. Since the introduction of the operation for the removal of the vermiform appendix, surgeons have for the most part used either the muscle-splitting incision of McBurney, or the rectus incision of Battle. Of these, the former is the more extensively employed, but there can be little doubt that they are both excellent or they would not have stood the test of time. Nevertheless, such stereotyped operations are often dangerous, in that they lead one to fall into the rut of unconsidered repetition.

Disadvantages of Stereotyped Operations.

There is a kind of "herd instinct" about surgery which lends its moral support to the performance of the classical operations, and often completely overbalances the surgeon's considered judgment of the individual case. For these reasons, if for none other, it is necessary to acclaim the stereotyped operations with a certain amount of reserve. They are magnificent for the teaching of operative surgery, but they are designed for ideal cases with a perfect diagnosis, and, as we all know, such cases are rare.

Higher mathematicians in complicated calculations, where perhaps absolute accuracy is not required, are continually dealing with what is known as the percentage error. In any estimation involving two consecutive calculations, the second of which depends upon the result of the first, it is obvious even to the layman that the percentage error must be roughly equal in both. It would, for instance, be futile to determine the second with absolute accuracy, if the first involved a large percentage error. It seems to me that this mathematical principle can be applied with advantage to the surgical treatment of disease. In this sense the treatment of any condition consists of two parts: (1) the diagnosis; (2) the operative treatment, the latter depending upon and being a function of the former. It therefore becomes necessary to have some idea of the percentage error in diagnosis before any estimate can be formed of the accuracy of any method of treatment.

Percentage Error in Diagnosis.

Opinions vary very considerably as to the percentage error of diagnosis in any disease, and it is, of course, impossible to express in mathematical formulæ something which depends to such a large extent upon the personal skill of individuals. Nevertheless, I am sure that many operations are designed without cognisance being taken of the fact that this error is frequently quite a large one. A well-designed operation should allow the error of diagnosis to be corrected if possible at the time of operation, if this cannot be done then the error of diagnosis is carried on through the treatment and the case is unsuccessful. Where, on the other hand, the error of diagnosis is very small—e.g., herniæ—there is little need to depart from the classical operations. Let us now apply this to the case of appendicitis, always remembering that the percentage error will vary within certain limits according to the skill of the individual surgeon. For this very reason it is no use appealing to personal experience only, if anything like an average figure is to be obtained.

Fortunately, I have had the opportunity of following the work of a number of surgeons both at home and abroad for several years, and during this time I have attempted to form some sort of idea as to the percentage error in their diagnosis of disease, and particularly in appendicitis. To read the current books upon the subject one would be led to think that the percentage error was a small one. Actually, however, I have found quite the reverse to be the case. With this, my personal experience, and that of several of my colleagues to

whom I have spoken, agrees. It is true, of course, that the more thoroughly a case is investigated and considered, the smaller this error becomes within certain limits. I am dealing rather with diagnosis as it is usually made than with ideal possibilities; but even in the latter case, when the utmost of care is taken, the percentage error is very much larger than we are inclined to think.

For our purpose the disease may be conveniently divided up into two big groups—the acute and the chronic. As mentioned above, it is impossible to give accurate figures, but roughly the error is 10 per cent. to 20 per cent. in the acute cases, and 20 per cent. to 30 per cent. in the chronic cases. It will be seen that the error is a very considerable one, and under the circumstances it is certainly not very logical to deal with the second part of the treatment—namely, the operation—as if there were no need to provide for eventualities in its performance.

There are some surgeons to whom the word appendicitis is apparently a mere shibboleth: they "diagnose" appendicitis, remove the appendix, and are satisfied. No doubt ever seems to enter their mind as to the accuracy of their "diagnosis" and therefore no doubt as to the efficacy of their treatment. Their incisions reflect this confidence, for they are so designed as to preclude the possibility of any exploration of the abdomen beyond the actual appendix. Fortunately for their peace of mind, if the pain recurs the patient most frequently seeks the advice of some other surgeon who is helped towards the correct diagnosis by the previous failure.

An Alternative Incision.

It is because the error of diagnosis is a large one that I think practically all cases, where it is proposed to remove the appendix, should be regarded in the light of exploratory laparotomies with a suitably designed incision for that purpose. Before departing from the more classical incisions, however, it will be necessary to see that their well-tested merits in many respects are not lost, particularly with regard to the accessibility of the appendix and the strength of the resulting scar. The incision which I now use in the great majority of my cases is neither new nor original, but it appears to meet these demands, while at the same time allowing thorough exploration if necessary. It is a vertical rectus incision passing through the anterior rectus sheath at the junction of inner and middle thirds, the rectus being retracted out (this constitutes the essential difference from Battle's incision) and the posterior sheath divided in the same vertical plane as the anterior. The great advantage of this incision over Battle's is, that there is no danger of injuring the nerves entering the rectus sheath at its lateral border, no matter to what length it may be found necessary to enlarge the incision, should the diagnosis be at fault.

One feels, therefore, no compunction in extending this incision, knowing that no paralysis of the rectus can occur, and consequently that the abdominal wall will not be permanently weakened. It can easily be objected, of course, that the general exploration is obtained at the expense of accessibility of the actual appendix, and to some extent this objection is a valid one. The answer can only be obtained by practical experience of the incision. I have now employed it in about 300 cases, and although it would be unwise to draw any far-reaching generalisations from such a small number, they are sufficiently numerous to prove that with good retraction there is very little difficulty in getting reasonable exposure of the right iliac fossa, so that any slight disadvantage arising from this is very much overbalanced by the advantage of being able to correct the error of diagnosis. Incidentally, although some of the cases were done seven years ago, I have not had any cases of secondary hernia brought to my notice even in cases which were drained; they may, of course, have occurred and gone elsewhere for treatment.

The importance of attempting to correct the error of diagnosis in the chronic cases is well illustrated by the following, which have all occurred within the last year.

Two of my medical friends have had their appendices removed for sudden attacks of pain in the right iliac fossa. In both cases the respective surgeons used a small McBurney's incision, and no attempt was made to correct any error of diagnosis. In both cases the pain recurred after a short interval, and both patients subsequently passed small renal calculi, since when they have been quite well.

There are a large number of conditions enumerated in the text-books of differential diagnosis, which not only may, but do, frequently so closely resemble appendicitis that the most experienced observer cannot with certainty distinguish them. The cases given above are not by any means unique, they occur to every surgeon of experience now and then, and it is surely more honest to recognise the error than to bury one's head in the sand of perfection. Before leaving the chronic cases to consider the rather controversial acute cases I should like to instance one or two further cases in which a more general incision would, in all probability, have demonstrated the diagnosis at the first operation.

A young lady suffering from attacks of pain in the right iliac fossa was subjected to appendicectomy without any relief to her condition. At a subsequent operation undertaken for the relief of "adhesions" it was discovered that her real trouble was a chronic tube on the right side.

A man, aged 36, was similarly operated upon without relief. He died later of a retroperitoneal sarcoma, which would most certainly have been discovered at the operation had the incision been suitably placed.

A case of osteo-arthritis of the spine with referred pain on the right side was subjected to appendicectomy, again without relief. The diagnosis was changed to "gall-stones" and a second operation undertaken for the relief of this. It is obvious that the second operation was not necessary, for a complete exploration of the abdomen the first time would have indicated that the pain could not be explained by any intra-abdominal condition.

It is of great interest to note that in all of the above cases chronic appendicitis was actually present; it does not follow logically, however, that the appendix is necessarily the cause of the patient's present illness. At the same time, these cases illustrate how essential it is, even when the appendix shows obvious signs of disease, to find out whether any other condition exists coincidently.

The Risk of Spreading Infection.

When we come to consider how this affects the case of acute appendicitis, an additional factor enters into the problem, and that is the risk of spreading infection. It will be useful for our purpose to divide up the cases into three groups.

(1) Those cases in which the appendix is acutely inflamed, but as yet there is no indication of peritoneal involvement; from our point of view they correspond entirely to the chronic cases, and all that has been said will apply to them.

(2) Those cases in which there is localised abscess formation. It is in this group that the greatest difficulty arises in attempting to vindicate the claims of the rectus incision; indeed, if there were no diagnostic error and one could make quite sure that the abscess had reached the anterior peritoneum, then obviously the only logical incision is the McBurney. Unfortunately, the diagnostic error creeps in just as frequently here as in the chronic cases. During the past year I have seen several cases in which the abscess was by no means as localised as it appeared. In addition, it is only quite rarely that the pus has reached the anterior peritoneum at the time of operation, so that any incision which approaches from the front will be bound first to traverse the general peritoneal cavity and thus run the risk of spreading infection. Our ideas of the resisting powers of the peritoneum have luckily changed for the better; we now realise that the peritoneum is exceedingly resistant to infection provided it is not overwhelmed by massive doses. Most of such cases will be drained, and it is difficult to see that the risk can be any greater if the abscess be drained towards the mid-line than if it be drained directly outwards, considering that the general peritoneum will have to be traversed anyhow.

(3) The third group constitute those cases in which there is already general infection of the peritoneum present at the time of operation. In such cases there can be little doubt of the advantage of draining the whole cavity from a point as near the mid-line as possible rather than from an incision placed well out to the side. If it be thought advisable to drain the cæcal area in addition, this is easily done by passing a tube out from the incision.

Illustrative Cases.

Of the three groups of cases, therefore, it would seem that the advantages of the incision are only doubtful in those where the abscess is assumed to be completely

localised, and it is because I believe that even in such cases this incision is often superior to the others, that the following cases are recorded with some detail, for they illustrate many of the points mentioned above in its favour.

(1) and (2) Two cases of appendicitis were admitted to Charing Cross Hospital together; the first was a girl of 19 years, and the second a man of 45. Their histories were precisely similar both as regards duration and symptoms, and in both cases what was apparently a well-localised abscess was felt. I decided as a test to use the McBurney incision in the first and the inner rectus incision in the other. The similarity of these cases was continued at the operation, indeed, it would have been difficult to find two cases more alike. In both there was a fairly well-localised abscess, but, in addition, a quantity of exudation in the general peritoneal cavity. The appendices were removed and large cigarette drains inserted. The man's recovery was uninterrupted; he left hospital at the end of the third week. The girl, on the other hand, developed a number of residual abscesses, in the peritoneum on right and left sides; she was subjected to several further operations for the drainage of these, and eventually left hospital for a convalescent home, scarcely able to walk unaided, and having barely escaped with her life, at the end of three and a half months. I am strongly of opinion that had this case been drained through a more central incision there would have been no residual infection in the peritoneum, and her recovery would have been as rapid as that of her contemporary. Were this case an isolated one it would prove nothing, the individual differences of resistance being too great; unfortunately, however, such cases can be multiplied.

Of a fairly large number of instances only two more need be given to prove that they are not very uncommon.

(3) A child, aged 5, was admitted to the Queen's Hospital for Children suffering from an obvious appendicitis calling for immediate operation. The resident officer who performed the operation felt so sure of the localisation of the abscess that, contrary to the usual custom, it was decided to use the McBurney incision, through which a large drainage-tube was inserted. After a few days this child died; at the post-mortem examination it was discovered that the abscess was not so localised as had been thought, and that a large extension to the left had been very inefficiently drained by the tube passing in on the right side, although such an extension must almost certainly have been well drained by a tube passing through a rectus incision.

(4) The fourth and last case also occurred at the Children's Hospital. This case had already been diagnosed as an appendix abscess, and upon examination I could find no signs of general peritoneal involvement. So well localised did the abscess appear that McBurney's seemed the only logical incision to use. In view of the above considerations, however, I adopted the inner rectus incision. The actual abscess about the appendix was certainly very localised, but in addition there was a peritoneal infection extending well to the left and not localised. The actual appendix abscess was opened, the appendix removed, and a large tube inserted down into the pelvis, a smaller one being carried out to the right iliac fossa. The boy made a rapid recovery. It is very difficult to see how efficient drainage of both sites of infection could be obtained by any other than a fairly mesial incision.

The mere record of cases grows tedious, especially as everyone must have had numerous examples of the same type in his own experience. They prove, however, that this incision is not devoid of merit, and although to use it as a routine would lead one into the very error of stereotyping which one is trying to avoid, yet I believe that if the indications of these cases are carefully observed, it will be used more frequently than either of the classical incisions.

Summary.

(1) Excessive stereotyping of classical operations is undesirable in view of the variation in cases.

(2) The incisions of McBurney and Battle, while excellent in their way, both limit the general exploration of the abdomen.

(3) The diagnostic error in the case of appendicitis is considerable, and should be corrected if possible at the time of operation.

(4) By the inner rectus incision with the rectus retracted out the whole of the abdomen can be easily explored, while at the same time the accessibility of the right iliac fossa is not seriously affected.

(5) This incision is indicated in all cases except those in which the localisation of an abscess can be guaranteed.

(6) The scar following is a strong one, and no cases of secondary hernia have been recorded.

THE OPERATIVE TREATMENT OF PROLAPSE (PROCIDENTIA) OF THE RECTUM IN ADULTS.[1]

BY J. P. LOCKHART-MUMMERY, F.R.C.S. ENG.,
SENIOR SURGEON, ST. MARK'S HOSPITAL FOR DISEASES OF THE RECTUM, ETC.

PROLAPSE of the rectum in adults, while not a dangerous complaint, is certainly one of the most distressing as regards discomfort that a surgeon is called upon to treat. In time it causes complete incontinence of the fæces, and to a large extent prevents the patient from getting about or attending to any form of business. It is notorious that results of treatment have often been very unsatisfactory; it is quite a common thing to find that a patient suffering from this complaint has had several unsuccessful operations performed for its relief.

Conditions Producing Prolapse.

In principle a prolapse is similar to a hernia and requires the same conditions for its cure. In a hernia the condition is produced, first, by the giving way of the muscular and fibrous supports at or near a weak spot in the wall of the abdominal cavity, and, secondly, by the stretching of some part of the contained viscera, which allows it to pass more or less through the opening so caused. These are also the conditions producing a prolapse of the rectum.

In order to cure a prolapse of the rectum it is first necessary to replace and anchor the prolapsed bowel, and then to restore the anal canal so that it is no longer a weak spot in the floor of the pelvis. Both results must be secured, for if one only is obtained recurrence of the condition is almost certain. The method I here describe was first published in THE LANCET during 1910[2]; my excuse for describing it again is that since then I have had a much more extended experience of the operation and its results, and am convinced that it is far superior to any of the other methods. It must be understood that the condition here referred to as prolapse does not include prolapsed piles, however bad, but true procidentia of the rectum, in which all the coats of the rectum are included in the portion which comes down. As a rule the prolapse varies in length from 2 to 8 inches. In old-standing cases the anus is patulous and the muscles badly stretched, while in some it may be almost impossible to elicit any contraction of the external sphincter on stimulation. If there is any appreciable weakening of the sphincter the integrity of the anus must be restored, and the prolapse dealt with at the same time, or a good result cannot be obtained. It is this factor which renders prolapse in the aged so difficult to cure; the muscular tone is gone and cannot be restored, and the surgeon can only hope to narrow the anal orifice.

Method of Operation.

A necessary preliminary to operation is to get the lower bowel thoroughly cleared out, several days being required to do this properly. The principle of the operation is to restore the bowel into its normal place in the hollow of the sacrum and hold it there by firm adhesions. In order to obtain these dense adhesions I make use of healing by granulation, and with this object in view the space posterior and lateral to the prolapsing portion of the rectum is packed with gauze and only allowed to fill up slowly so as to get the densest possible adhesions between the rectum and the sacrum.

The operation is performed as follows: The rectum is thoroughly cleaned out with ether soap and lysol solution, and finally with 75 per cent. spirit and picric acid, the skin of the perineum and buttock being similarly rendered aseptic; after the prolapse has been returned a piece of gauze is placed in the rectum to prevent leakage during the operation. A transverse incision is next made about 2½ inches long midway

[1] Being a paper read before the Subsection of Proctology of the Royal Society of Medicine. [2] THE LANCET, 1910, i., 641.

between the tip of the coccyx and the posterior margin of the anus. This is deepened until the connective tissue between the rectum and the sacrum is opened. With blunt dissection or with gloved fingers this space is opened as high up as possible and laterally till the rectum has been freed thoroughly at the back and sides. The whole of the space thus opened up is now lightly packed with sterilised vaseline gauze 2 inches wide, and made with a sewn edge, so that it will not fray and leave particles behind. A very considerable amount of gauze tape is used, but the object is to get this spread as flat as possible and not merely to fill the pelvis with it, and so block the rectum. As much as 40 yards of gauze have been employed in some cases. The end of the gauze is left protruding from the wound, and if (as is usually the case) more than one piece is used all the ends are firmly tied together at the finish.

The next thing is to restore the anus; the type of operation for this purpose will vary according to the condition to be dealt with. My usual method is to extend the ends of the previous incision forward on each side to about half-way between the anterior and posterior margins of the anal orifice. The flap thus formed is dissected up so as to expose the posterior half of the external sphincter. This muscle is then carefully defined and the lateral portions sewn together from behind forwards until the anal orifice is narrowed to the extent considered desirable. No. 1 catgut is used for the stitches, and they are not pulled tight enough to cut through the muscle fibres, but just to bring the sides of the sphincter in close contact. Supporting sutures are put in, and then the flap is loosely stitched back in position, leaving room for the removal of the gauze packing later. A short tube is placed in the rectum to prevent prolapse should the patient strain coming round from the anæsthetic, and the whole perineum covered with sterilised dressings.

Treatment after Operation.

The wound is dressed twice daily and fresh dressings applied, but the packing is not removed for a week. At the end of this time an anæsthetic is given, all the packing removed, and a fresh lot of gauze introduced; this, again, is left in for five days or a week, and then removed; this time no fresh gauze is introduced, a drainage-tube being placed in the cavity left by its removal. The wound should not be allowed to heal under three weeks; in fact, the more slowly it heals the better the result. The bowels are kept confined until the seventh day after operation, when they are relieved by an enema before the removal of the packing; after this they are opened daily with an enema, a slipper bedpan being used. The patient is not allowed out of bed for six weeks and not allowed to sit up for an action of the bowels for two months at least. It is most important in view of the large area of cellular tissue opened up that there should be no sepsis at the time of the operation, but sepsis later is almost certain to occur after the removal of the packing, and is, in fact, desirable. The slower the wound heals and the more fibrous tissue involved the better the result.

Results.

I think I may say that the results of the operation are very good. The earliest case was treated as long ago as 1908, so there has been plenty of time to test the question of a permanent cure. Out of the total of 32 cases there have been only five failures. Two of these were permanently cured by repeating the operation. In one other case two operations failed to cure the patient, but in that case there were special circumstances; the patient, a lady aged 52, suffered from a chronic nervous affection of the spinal cord, which caused great difficulty in micturition, and consequent straining was the cause of recurrence of the prolapse. She was also mentally deficient, so that it was difficult to get her to take reasonable care of herself. With these exceptions all the cases were cured. In quite a number of cases several previous operations had been performed unsuccessfully by other methods. As regards risk, this would with proper precaution appear to be negligible. So far I have not met with any serious complication.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

DISSEMINATED SCLEROSIS TREATED WITH INTRAVENOUS ARSENIC.

BY J. R. PERDRAU, M.B., B.S. LOND.,
PATHOLOGIST, LAMBETH INFIRMARY;
AND
G. F. STEBBING, M.B., B.S. LOND.,
SENIOR ASSISTANT MEDICAL OFFICER, LAMBETH INFIRMARY.

IN view of the work that has been done in recent years tending to show that disseminated sclerosis is of spirochætal origin the following notes are of interest, showing the effects produced in a case of disseminated sclerosis which was treated by intravenous injections of arsenic:—

J. M. F., aged 26, married, was admitted to the infirmary April 24th, 1916. She had had no previous illness and had three children, all alive and well at the time of her admission. Six months before admission she had noticed loss of power and sensation in the left hand, which had only lasted a short time. Five months later similar symptoms appeared in the right hand and she began to drag her right foot. She became gradually worse and was bedridden for a short time before her admission.

On admission she was well nourished, and there were no physical signs of disease in the heart, lungs, or abdomen. The grip of each hand was very weak; the deep reflexes were present, equal, and active; there was no loss of sensation to light touch, pain, or heat, but there was considerable ataxia of the arms, and she was unable to appreciate weights correctly. The legs were paralysed and flaccid, the deep reflexes much exaggerated, and the plantar reflexes extensor; sensation to light touch, pain, and heat was normal, but the patient complained of pains in her legs at night. The sphincters of the bladder and bowel were affected. There were no lesions of the cranial nerves; the pupils reacted to light and accommodation; the sight, speech, and mental condition were normal. Patient had slight scoliosis; there were no pains in the spine and no "root pains."

A diagnosis of a lesion of the pyramidal and posterior columns—i.e., combined sclerosis—was made. The Wassermann reaction of the patient's blood serum was returned "positive." There was no clinical evidence of syphilis in the patient or her husband, and repeated examinations of the latter's blood were always "negative." However, on the strength of the positive Wassermann, the patient was given a course of intravenous arsenic in the form of galyl in concentrated solution, followed by weekly intramuscular injections of metallic mercury. The improvement in the patient's condition was immediate. She was soon able to move her legs in bed, she recovered control of her sphincters, and four and a half months later she was able to walk about and go home. She attended the infirmary regularly for antisyphilitic treatment, and the Wassermann reaction which was tested every three months, was always negative. A mild paresis of the legs remained and never completely cleared up, but the patient, from being completely bedridden, had become able to walk about, to walk to the infirmary, and to do her housework, and in view of this dramatic improvement, which had apparently been effected by the treatment, the case was looked upon as one of syphilitic meningo-myelitis.

On April 8th, 1918, the patient was readmitted for a severe relapse.

On admission there was definite spastic paraplegia and occasional incontinence. The pupils reacted normally and sight and speech were not affected. Intramuscular injections of mercury were resumed, combined with treatment by massage and radiant heat. Only a slight improvement occurred, and the patient took her discharge on May 8th, 1918, her mental condition beginning to show a little deterioration—e.g., she became discontented and complained without sufficient cause, &c.

She was not seen again until Oct. 8th, 1919, when she was readmitted in a much worse condition than she had been in at any previous time. She was emaciated, bedridden, and suffering from a large bedsore over the sacrum. She was completely paralysed in both legs and incontinent of urine and fæces, but had no disorder of sensation; her pupils and sight were normal, and remained so to the end. But a new order of symptoms had appeared; her speech was slurring and characteristic of the kind observed in G.P.I. Her mental condition was still more typical of that disease; she was disorientated for time and place, was inordinately happy considering her condition, very emotional at times, and had many

delusions of grandeur—e.g., she was a princess, possessed vast sums of money, and kept giving orders for goods on an extravagant scale, &c. The Wassermann reaction of her blood serum remained negative. She got gradually worse and died on March 27th, 1920.

Remarks.

Up to the time of this patient's death, in spite of the absence of pupillary signs, the case was considered to be an unusual one of syphilis of the central nervous system, beginning as a meningo-myelitis, passing into a stage where the physical signs were referable to a healing pachymeningitis and ending as a case of parenchymatous syphilis of the brain (G.P.I.). The post-mortem examination, however, upset the whole of the clinical observations and deductions. The central nervous system presented the typical lesions of disseminated sclerosis with the characteristic haphazard distribution of soft pink patches of sclerosis in the spinal cord and medulla and in the white matter of the brain. The microscopical findings confirmed the naked-eye appearances. No pachymeningitis was found, but there was a mild leptomeningitis.

This case is of interest for the following reasons: (1) The simulation, at first, of a spinal syphilitic lesion, and, later on, of syphilis of the brain by a case of disseminated sclerosis. (2) The remarkable improvement which occurred in a bedridden case of disseminated sclerosis. The improvement was so great that the patient, after having been completely paralysed in both legs, was able to walk without help for two years before a relapse occurred. (3) The possibility that intravenous injections of arsenic may have played some part in producing this improvement.

A NOTE ON THE

ADMINISTRATION OF BILE SALTS IN INFANTILE MARASMUS.

BY E. F. KERBY, M.B., B.S. LOND.,

LATE HOUSE PHYSICIAN TO THE EVELINA HOSPITAL FOR CHILDREN, LONDON.

THE following report is based on observations carried out at the Evelina Hospital in 1918 on four marasmic infants. Publication of results has been delayed until now on account of the limited number of cases hitherto investigated and the paucity of laboratory evidence corroborating clinical observations. However, Dr. R. Miller's recent article, "Cœliac Infantilism: Its Fat Digestion and Treatment by Bile Salts,"[1] and Dr. R. Armstrong's letter[2] have encouraged the present publication, especially as the literature is peculiarly deficient in papers dealing with the clinical aspect of bile-salt therapeutics. On the other hand, there are a number of very interesting pathological investigations that have a bearing on the rationale underlying the treatment to be described. For reference to the researches of W. Jacubowitsch,[3] A. Baginsky,[4] and Arvo Ylppö[5] I am indebted to Dr. W. M. Feldman. Papers by H. Roger,[6] H. Dubin,[7] and R. Simonini[8] were also consulted, though all these investigations had been undertaken with different aims in view.

While it appears unprofitable at this juncture to discuss the particular theories involved, it may be stated that increased fat assimilation is thought to be only one of several therapeutic effects of bile salts. It is further suggested that cases of marasmus most likely to respond to the treatment are those following acute intestinal infections and chronic disorders of the type of H. Finkelstein's "balance disturbance," described by H. C. Cameron as "cow's milk atrophy."[9]

All patients reported in the present series beleng to the large group of infants showing evidence of marasmus without other physical signs. In Case 2 the presence of congenital syphilis was suspected, but could not be established. Cases 1 and 3 had a history of wasting of long duration, which in the latter case followed on an attack of infective enteritis. In no case was there any evidence of cœliac disease or any macroscopic indication of fat excess in the fæces. While normal as a rule, the stools were occasionally bile-stained and unduly frequent.

The average dose administered in the course of this investigation consisted of gr. ½ of the mixed sodium glycocholate and taurocholate for infants 3 months old. No attempt was made to investigate the differential action of the two acids. The patients' diet was kept as uniform as possible; it consisted of pasteurised cow's milk suitably diluted.

CASE 1.—A. B., a girl, aged 10 weeks, admitted July 4th, 1918, weight 3·2 kg. During the first month weight dropped to 2·9 kg., but rose again to a maximum of 3·39 kg. on August 16th. During following month she lost again steadily. On Sept. 19th, her weight then being 3·06 kg., bile salts were administered. She immediately began to put on weight; except for a slight set-back caused by enforced substitution of condensed for fresh milk, this improvement continued throughout her stay in hospital. A fortnight after the administration of bile salts had been stopped her weight had reached 4·12 kg. Therefore, after the first period of 10 weeks in hospital she had lost 0·14 kg.; during the second 10 weeks, while bile salts were given, she gained 1 kg. Her parents reported at the beginning of May, 1919—that is, six months after discharge—that they "could almost see her put on weight" and that she was fit in every respect.

CASE 2.—C. D., a boy, aged 2 weeks on admission; emaciated and very weak. Frequent attacks of vomiting and diarrhœa. Though he was not thought to suffer from typical marasmus, bile salts were administered for two short periods without arresting the steady drop in weight. Altogether he had lost 0·5 kg. when he died. One Wassermann examination had been returned negative, but suspicions of the presence of syphilis remained.

CASE 3.—E. F., a girl, aged 8 weeks, admitted for infective enteritis. A normal infant before this illness, she became marasmic after the attack of enteritis had subsided. On admission her weight was 2·8 kg. After a temporary rise to 3·06 kg. it dropped to 2·7 kg. After 10½ weeks it was just 3 kg. She was then given bile salts. With but one interruption, during an attack of otitis media with otorrhœa, her weight steadily increased to 3·8 kg. During the first 10½ weeks in the ward she had gained 0·2 kg., after many oscillations; during the second period, lasting 6½ weeks, while bile salts were administered, she gained 0·8 kg.

CASE 4.—G. H., a boy, aged 7 weeks. Bile salts were given for one short period only, but neither this nor any other treatment led to a marked improvement. His condition was practically the same on discharge. This case is included merely for the sake of completeness.

Conclusion.

Cases 2 and 4 cannot be shown to have derived any benefit from bile salts. It may be argued that Case 2 was syphilitic, or, in any case, was too much handicapped by infective enteritis to recover with any form of treatment. In judging the improvement in Cases 1 and 3, two outstanding features must be considered in addition to the increase in weight. In the first place neither patient showed any improvement during the first ten weeks in hospital. In spite of all efforts to find a suitable treatment the downhill course had not been stayed. Secondly, the steady general improvement synchronous with the bile-salt treatment impressed all clinical observers. The infants, apathetic and feeble, and to all appearances moribund, responded from the very outset of treatment until they were vigorous and thriving like normal babies. It must be emphasised, therefore, that the actual gain was greater and more complex than a mere increase in weight.

In conclusion, I wish to express my gratitude to Dr. D. Forsyth and Dr. E. P. Poulton for facilities of study and permission to publish these notes.

[1] THE LANCET, 1920, ii., 894. [2] THE LANCET, 1920, ii., 1023.
[3] Jahrb. f. Kinderheilk., 1885, xxiv., 373.
[4] Arch. f. Kinderheilk., xix., 1896, 321.
[5] Zeitschr. f. Kinderheilk., ix., 1913, and xvii., 1915.
[6] Ann. Inst. Past., 1915, xxix., 545.
[7] Jour. Biol. Chem., Balt., 1917, xxxi., 255.
[8] Nipiologia, Napoli, 1918, iv., 1.
[9] Diet and Disease in Infancy.

A SPECIAL **meeting of members of the medical** profession interested in the subject of the advance of medical education in China will be held on Monday, Feb. 21st, at 5.30 P.M., in the Barnes Hall, Royal Society of Medicine, 1, Wimpole-street, London, W.

BRITISH HOSPITALS' ASSOCIATION.—**A conference,** called at the request of the British Hospitals Association, was held at the Royal Portsmouth Hospital on Jan. 27th. It was unanimously decided to form a regional committee of representatives of hospitals in Hampshire, Isle of Wight, and part of Sussex, in order to guard the interests of voluntary hospitals, and to give to the Central Committee a combined opinion on questions affecting them. Each hospital will be asked to nominate two delegates. Meetings will be held quarterly in various towns in the district.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

A MEETING of this society was held on Jan. 24th, Sir WILLIAM HALE-WHITE, the President, being in the chair, when Dr. A. FEILING read a paper on

Multiple Neuritis.

He said that the term "neuritis" was somewhat misleading, since it conveyed the idea of an inflammatory lesion, rather than of a degeneration of the parenchyma of the nerves. Modern researches had all tended to confirm the view held by the older observers and to enlarge our conception of the disease as one where the neuritis was only part of a generalised disease process which might affect other organs even primarily, and the nerves and central nervous system secondarily. The essential cause of the disease might, broadly speaking, be described as some poison which was either introduced from without (for example, the chemical poisons of alcohol, lead, or arsenic) or elaborated in the body by the growth of bacteria such as the diphtheria bacillus, or which was part of a general infection or intoxication, such as occurred in the specific infections, typhoid fever or influenza, for example. Multiple neuritis might also occur in conditions of altered metabolism, such as were found in diabetes, in cachectic conditions such as tuberculosis or cancer, or in states where a dietetic insufficiency played a large part, as in beri-beri. Pathologically, the process was essentially one of degeneration, and though inflammatory changes were present in some forms they were an inconspicuous feature. Recently more attention had been focused on the changes found in the central nervous system, and more exact methods had brought these changes into increasing prominence. Thus, Marie warned us that the disease was not limited to the peripheral nerves, but that changes might be found in the spinal cord and medulla in many cases. The ganglion cells in the anterior horns constantly showed the changes of chromatolysis, while the posterior root ganglia were often affected. Which was the primary condition had long been a moot point, but the most acceptable explanation was that the action of the toxin fell on both, so that the whole motor neurone, and in many cases the sensory neurone as well, was attacked. The recent researches of Orr and Rows on lymphogenous infection of the central nervous system had demonstrated ascending lymph streams in the spaces of the perineural sheaths, and that toxins could reach both the spinal cord and medulla by this route. F. M. R. Walshe had applied this conception to explain the pathogenesis of diphtheritic paralysis, and had pointed out that the varying nature of the paralysis might be explained by the seat of the toxin in the body. Thus in the ordinary case of faucial diphtheria toxins were elaborated in the membrane and passed to the medulla or mid-brain by the perineural lymph channels of the cranial nerves, and hence the early involvement of those nerves by the action of the toxins on their centres. The multiple neuritis—i.e., that of the arm and legs—was referred to a blood-borne general toxæmia which was usually of later date than the cranial nerve involvement. This contention received support from his experience of diphtheria in the Egyptian Expeditionary Force, in which the site of the infection was the skin in many cases, and in which there was a close connexion between the situation of the primary lesion and that of the initial paralysis. The importance of a generalised infection of the central nervous system was also evidenced by the pathology of acute febrile polyneuritis. Such far-reaching changes as involvement of the grey matter, muscular degeneration, and hepatic inflammation could be demonstrated. Bradford, Bashford, and Wilson regarded the disease as essentially a septicæmia, the central nervous system being affected by way of the nerve trunks.

Having spoken briefly of the general signs and symptoms of multiple neuritis he referred more particularly to the work of Walshe on diphtheritic neuritis, and that of Gordon Holmes, and J. R. Bradford, E. F. Bashford, and J. A. Wilson on acute infective polyneuritis.[1] The former had forced us to realise the importance of the skin as a possible portal of entry of infection in multiple neuritis, and impressed upon us the general involvement of all the elements of the nervous system. Bradford, Bashford, and Wilson had concluded as follows:—

1. So-called acute febrile polyneuritis is a very definite entity, capable of being separated clinically from other diseases of the nervous system.
2. It is a diffuse affection of the nervous system affecting the spinal cord, spinal ganglia, and peripheral nerves, with but a slight incidence on the cerebral cortex.
3. The lesion is essentially one of the nerve elements—cells and fibres.
4. The malady can be transmitted experimentally to the monkey, and the characteristic lesions reproduced in the experimental animal.
5. A living virus can be shown to be present both in the human cases and in the inoculated monkeys.
6. The disease can be reproduced in the monkey by the suitable inoculation of the virus in pure culture, and the virus can be recovered from the experimental animal.

Similar cases had been noted in civil practice, and he recounted two from his own experience. He then spoke of multiple neuritis following influenza, many cases of which he had met with during the last epidemic. The symptoms were chiefly on the motor side. Wrist-drop and foot-drop were both fairly common, while less frequently the paralysis had involved the muscles of the trunk. He had seen paralysis of the abdominal muscles and of the diaphragm. Patrick had analysed the occurrence of facial paralysis in multiple neuritis, and had found that it occurred most commonly in influenzal cases. Multiple neuritis in the typhoid fevers was very uncommon, and he had never seen a case of any severity. He had met with one remarkable case following typhus in which the muscles most affected were those of the shoulder girdle. Dysentery, particularly the bacillary type, could undoubtedly be responsible for multiple neuritis. Several examples which had come under his observation were all mild, and exhibited no special feature beyond a slight motor paresis and subjective disorders of sensation with loss of the knee- and ankle-jerks. After laying stress on the importance of regarding all cases of multiple neuritis as examples of infection or of intoxication affecting the whole body and not merely confining attention to the nervous system, he remarked upon the apparent diminished frequency of alcoholic neuritis, and asked the views of the meeting on the occurrence of multiple neuritis in rheumatoid and other types of infective arthritis.

Discussion.

The PRESIDENT said that he was in full agreement as to the implication of the rest of the nervous system. It was difficult to understand why particular nerves were damaged by particular poisons—for example, the musculo-spiral by lead and the anterior tibial by arsenic. Was there some subtle chemical difference between the two nerves? Another example was the confinement of multiple neuritis of diphtheria in many cases to the mouth and its neighbourhood. He had twice seen neuritis due to alcohol fatal from involvement of the vagus. To ascribe the selection of particular nerves to "selective affinity," as was so often done, was no real explanation. He thought there was certainly a decrease in alcoholic neuritis, and recognised little association between neuritis and rheumatoid arthritis.

Sir DAVID FERRIER, while agreeing that the centres were affected, said there was no doubt that the brunt fell on the peripheral nerves, and until recently pathologists had been unable to discover the lesions of the central nervous system. Paralysis of peripheral neuritis differed from that due to affection of the anterior horn in that it showed itself more particularly in the extensor muscles. This was seen in the case of alcohol, lead, arsenic, and almost every form. If a

[1] THE LANCET, 1919, i., 348.

nerve were pressed upon, the first muscles to become paralysed were again the dorsi-flexors. In pressure on the recurrent laryngeal nerve this was true of the abductors. It appeared that the extensors and the abductors were more vulnerable, and clinically this afforded an important distinction between neuritis and poliomyelitis. The grouping was different from poliomyelitis, and the paralysis corresponded with function. During recovery, again, the last muscles to recover were the extensors.

Handprints of Mental Defectives.

Dr. F. G. CROOKSHANK read a paper on Handprints of Mental Defectives, with special reference to those of Mongolian imbeciles. In order to make clear the point to which he desired to draw attention he explained the lines on the normal palm, using for convenience, without prejudice, the terminology of the palmists. Three main lines were seen on a normal well-developed palm. The first, which skirted the ball of the thumb and was known as the "line of life" being correlated with a well-developed thenar eminence, was more marked in those who are vigorous, both bodily and mentally. Of the two other principal lines one, called the "line of heart," took origin from between the pads at the bases of the first and second fingers and ran outwards to the ulnar border; the other, nearer the wrist, rose near the hypothenar eminence and ran outwards to the cleft between the thumb and the base of the index finger. Though these primary lines were correlated with function they were not actually, and for each individual, developed during and by the use of the hand, as were most of the secondary and tertiary lines. They were normally present in the last week or weeks of fœtal life, their presence at this early stage being an example of the operation of what is called the law of anticipation; that is to say, characters acquired for the race by response to need tended to appear in succeeding generations at early stages of development in anticipation of exercise of that function with which they were correlated and for which or to which they were adapted. When an ill-brought-up child, an idiot, or an ape grasped a fork, a stick, or a straw, not as we hold a pen or a knife, but across the palm, a broad transverse crease was made which showed how the lines of head and heart had been differentiated from one transverse primitive line suited to this primitive usage of the hand. Such a line was seen on the hands of many monkeys, as in the rhesus, and of some apes, especially the orang, and it was this single transverse line that was seen on the palm or palms of many Mongols. In Beamish's "Psychonomy of the Hand" (1864) there was a representation of this type of marking as seen in the hand of a congenital idiot in Cork County Asylum, and some years ago he had seen a similar print from the hand of an American doctor executed at Chicago for murder. Otherwise he believed that this morphological peculiarity had escaped observation. Professor F. Wood Jones, however, mentioned it, though not in connexion with Mongolism. There was a general resemblance between the prints of the right and left hands of a young normal in respect of the primary lines, but amongst Mongolian imbeciles there was often, even at an early age, a difference between the right and left palm. As a rule, the left was the more primitive, but when both were primitive the child was usually of a low grade.

It was, however, not only in respect of Mongolism that a study of hand prints was interesting. Certain mental defectives and some nervous children who were not cretins, but who responded to thyroid treatment, displayed a very characteristic hand print. There were coarse deeply-scored intersecting lines giving the appearance of a photograph from an aeroplane of a barbed wire entanglement. This type was sometimes met with conjoined with that of Mongolism. A good deal of evidence had lately accumulated to show that in Mongolism there was an element of dysthyroidism. The occurrence of mixed types was not so uncommon as was thought, and children with a mild degree of Mongolism, but who were not imbeciles, often became myxœdematous in later life. Besides these two chief types there was another of considerable interest. In the peculiar hands of patients suffering from dementia præcox the lines running up divergently from the wrist were very marked, as in the chimpanzee, and the same thing was seen in the hands of children of the physical and mental type that stamped them as candidates for dementia præcox. Though it was easy to recognise the three types of hand prints, nevertheless mixed cases occurred. The Mongolian line, as seen in adults who are called normal (but who, though able, are usually anything but commonplace), was not a sign of imbecility, but indicated the unit one might call Mongolian, albeit not dominant but in recession. He showed a large number of hand prints to illustrate his paper.

Dr. R. L. LANGDON-DOWN said that particular hand prints were only true, broadly speaking, of those imbeciles called Mongols. The special mal-development of the lines which had been described was confined to Mongols, and though in others there might be irregularity they were not of the same type. They were not seen in all imbeciles. He agreed that in some cases in which there were none of the ordinary traits of Mongols the lines might be useful in diagnosis. He associated both the Buddha posture and the grooves in the hands with the abnormal flexibility of joints and harshness of the skin. Another feature was shortness of the index fingers.

ROYAL SOCIETY OF MEDICINE.

SECTION OF MEDICINE.

A MEETING of this section of the Royal Society of Medicine was held on Jan. 25th, Dr. A. F. VOELCKER, the President, being in the chair.

Dr. P. J. CAMMIDGE read a paper on

Observations Bearing on the Etiological Classification of Diabetes Mellitus.

After briefly summarising a series of experiments on the changes in the blood and urine associated with pancreatic disease, published in THE LANCET[1] in conjunction with Mr. Cairns Forsyth and Mr. H. A. H. Howard, in which it was shown that the "difference value" of the blood and the iodine coefficient of the urine, estimated at hourly intervals before and after a test-meal taken fasting, vary inversely as the percentage of sugar in the blood and the output of sugar in the urine respectively, the speaker proceeded to describe the results of the application of similar methods to the study of diabetes mellitus. It had been found that in a series of 100 consecutive cases 33 gave curves corresponding to one or other of those obtained with partially or totally depancreatised dogs, and it was inferred that the diabetes was probably of purely pancreatic origin in about this proportion. The remaining cases were divisible into three groups according to the relation between the difference value and blood-sugar curves. In one the difference value starting at or about zero in the fasting state rose with the percentage of sugar in the blood after a meal and continued to rise as the blood sugar dropped again after reaching its maximum. Experimental and clinical evidence was brought forward which indicated that in this type of case the functions of the liver were being imperfectly carried out, and it was concluded that this, the "hepatic" type of curve, probably indicated a different form of diabetes from those in which a "pancreatic" curve was found. In another group the difference value of the blood was found to be abnormally high in the fasting condition, as in "pancreatic" cases, but instead of the ingestion of food being followed by a fall a rise occurred, as in the "hepatic" type. It was, consequently, suggested that cases showing curves of this character were suffering from a combined pancreatic and hepatic disorder. In the remaining cases the difference value and blood-sugar curves ran concurrently, a rise in the one being associated with an increase in the other and vice versa; moreover, in most of them the peak of the blood-sugar curve after a test-meal had been found to

[1] THE LANCET, August 21st, 1920, p. 393.

occur at the first or second hour instead of at the third hour, as in a normal individual. No definite opinion as to the pathology of this group was expressed, but, as it included cases of exophthalmic goitre and acromegaly, it was suggested that curves of this description might be an expression of disturbances in the nervous system or in the ductless glands, apart from the pancreas. The subject is at present being investigated experimentally. So far as a limited experience allowed of inferences being drawn, the pancreo-hepatic type was much the most serious as regards prognosis, the pure pancreatic type came next, the true hepatic condition was comparatively innocuous, while no deaths had so far occurred among the patients giving a concurrent type of curve. Dr. Cammidge said that the paper was a preliminary communication, and that modifications might become necessary as the investigation advanced.

Dr. E. P. POULTON'S paper on the treatment of peptic ulcer by means of gastric and gastro-duodenal tubes appears in full in the present issue of THE LANCET.

SECTION OF OTOLOGY.

AN ordinary meeting of this section of the Royal Society of Medicine was held on Jan. 21st, Mr. ARTHUR CHEATLE, Vice-President of the section, occupying the chair.

CAVERNOUS SINUS THROMBOSIS.

Mr. T. RITCHIE RODGER (Hull) read a paper on four fatal cases of this condition which had been under his care. The origin of the trouble was different in each case. In the first patient the superior petrosal sinus had been primarily infected from the middle ear or the internal ear without previous involvement of the sigmoid or the lateral sinus. The second case had a more usual origin—namely, a carbuncle on the nose. The third was of the middle-ear type, in which the sigmoid was thrombosed, the process extending to the cavernous sinus, presumably via either or both petrosals. The fourth was an example of infection following a frontal sinusitis. This was the only case of the four in which permission could be obtained for a post-mortem examination. In this a purulent exudate was found covering the whole of the left side of the brain, and several ounces of pus drained into the basin. The lateral, sigmoid, and longitudinal sinuses were normal. The circular sinus and the anterior part of the right cavernous sinus showed pus and soft thrombi. The dura was adherent to the roof of the left frontal sinus, and the bone was dark-coloured. Removal of this dark bone revealed a frontal sinus full of thick pus and gangrenous mucous membrane. A similar condition was present in the left antrum of Highmore and in the ethmoid cells. Mr. Rodger discussed the methods of approach to the sinuses and the possibility of saving these very fatal cases by setting up a suction action by lavage of the jugular bulb, the idea being to aspirate the septic clot from the inferior petrosal sinus. He said that although cavernous sinus thrombosis was one of the most fatal conditions met with, a sufficient number of recoveries without direct attack had been recorded to encourage otologists to use every available means to attain that end. When dealing with sigmoid sinus thrombosis the most scrupulous cleansing of the mastoid cavity must be carried out before opening the vein, and the greatest care observed in inserting the upper plug. Also vaccines and every possible aid to increase the patient's resistance should be employed, and one of the most important of these means he considered to be fresh air.

Mr. W. STUART-LOW expressed his decided preference for the cortical mastoid operation over the radical operation for young patients. These patients showed great powers of recovery, and after the radical operation there was a considerable tendency for the sepsis to extend into the veins. He also laid stress on an efficient preparation of the field of operation before attempting treatment, and the use of a cage over the wound instead of a tight bandage, to allow of free access of air.

Mr. CHEATLE considered that cases of the kind, when once established, were hopeless. He referred to the operation on the cavernous sinus which was designed by Sir Charles Ballance, and described before the Otological Congress at Boston, U.S.A. He, the speaker, referred to the case of a child which he recently had. The patient was at once operated upon, but all that was found was pus in the antrum. Signs of cavernous sinus thrombosis developed and death ensued. At the autopsy, sepsis was found to have extended to the superior petrosal sinus, which was evidently the pathway of the infection to the cavernous sinus. He referred to the danger of syringing the sinus in operations for thrombosis of the lateral sinus.

Dr. A. A. GRAY (Glasgow) said he had seen four cases of recovery from the condition under discussion, but they may not have been septic cases.

Mr. HAROLD KISCH spoke of recovery in a case of cavernous sinus thrombosis which was under his care. It was that of a Punjab Mahomedan who was wounded in the scalp in 1917. When seen, the scalp was œdematous and very septic. Several incisions were made, and the veins of the scalp were full of pus. He had a high temperature, pain, proptosis, chemosis, &c.; but in a few days there was complete recovery. Native Indians often showed remarkable powers of dealing with sepsis. This man was nursed in a tent, which might have been a factor in his recovery.

Mr. RODGER replied.

EXHIBITION OF CASES.

Tinnitus with Large Rhinolith.

Mr. L. COLLEDGE showed a woman, aged 59, who had been complaining of tinnitus in the right ear for many years. There had also been some discharge from the right nostril, with obstruction of it, causing, however, very little pain, and there was no deafness. There was suppuration in the right antrum of the nose, and some small mucous polypi were present. The stone was felt with the probe, and was removed by an operation on the right antrum; the rhinolith had to be partly crushed before removal to avoid damaging the nose in extraction. A carious second bicuspid tooth was also removed, and there had been great relief since.

Pyorrhœa Alveolaris Affecting the Ears.

Mr. A. J. HUTCHISON showed two cases illustrating this relationship. The first, a girl aged 18, complained of increasing deafness and tinnitus in both ears, but the membranes appeared normal. Following the discovery of pyorrhœa five teeth were extracted: the tinnitus ceased, and hearing greatly improved. The second, a man, had ear pain, which started after bathing, and for 13 months had a varying discharge, and later had pain in knee, elbow, and neck. Pyorrhœa was discovered, teeth extracted, and within two weeks the ear became dry, hearing improved, and the joint-pains ceased.

Long Retention of Bullet in Ear.

Mr. KISCH showed a private soldier who, in January, 1916, was admitted to a military hospital with extreme rheumatoid arthritis in many joints, and emaciation. There was a profuse offensive discharge from the left ear, and the middle ear was filled with granulations; the mastoid was tender, and there was a tendency to spontaneous nystagmus. On exposing the middle ear the base of a rifle bullet could be seen just below the promontory, and it was extracted entire. There was no sign of fracture of the external auditory meatus. The ear progressively recovered, and his joints improved sufficiently for him to live an ordinary life. The bullet had been in situ 15 months.

Foreign Body in Mastoid Antrum.

Mr. T. JEFFERSON FAULDER showed a boy, 8 years of age, in whom a bead was found in the deeper part of the meatus, beyond the isthmus. It completely filled the lumen and was surrounded by a small rim of wax. Attempts at extraction by the natural route failed, and on making a post-aural incision the bead could not be found in the meatus or the tympanum. A later operation exposed the foreign body lying among granulations

in the antrum. It appeared to have arrived there by way of a much enlarged aditus.

Deep Aneurysm Involving the Temporal Bone.

Mr. NORMAN PATTERSON showed a patient with this condition, and described the operation he proposed after ascertaining what set of vessels the aneurysm was connected with.

Among the other cases was one by Mr. G. J. JENKINS, Probable Epithelioma of Auricle; and by Mr. W. M. MOLLISON (1) Tympanic Exostoses, and (2) Meatal Polypus due to sinus of the superficial bony meatal wall.

HARVEIAN SOCIETY.

THE FUTURE OF THE POOR-LAW INFIRMARY.

A MEETING was held on Jan. 27th at the Paddington Town Hall, with Dr. G. DE BEC TURTLE, the President, in the chair, when the discussion on the Future of the Poor-law Infirmary,[1] adjourned from Dec. 16th, was resumed. A letter was read from Colonel F. E. Fremantle, M.P., regretting his unavoidable absence, and urging that the problems should be attacked on broad lines. The opening addresses, by Dr. A. G. Stewart and Dr. R. Dudfield, appear in full in the front part of this issue of THE LANCET.

Dr. J. B. COOK (West Middlesex Poor-law Hospital) spoke of his 16 years' experience of the inside working of an infirmary. The criticisms made against the equipment and treatment of patients were quite unfounded, anyhow as regards modern infirmaries in or near London. Dr. Wilson had suggested that Poor-law infirmaries had no future; if they were as he described, they certainly were not deserving of one. Dr. Charles Buttar had described them as the rubbish-heap of practice. The speaker was proud to have such rubbish on his heap, and confirmed Dr. Stewart's remarks as to the proportion of acute cases treated, the adequate equipment, the facilities for consultation and for pathological investigation, and the excellence of the training of nurses in modern infirmaries. In his opinion the future of the Poor-law infirmaries was assured. They were supported by public funds and would become State hospitals, and therefore their absorption by voluntary hospitals was unlikely. The future of the voluntary hospitals was much more uncertain. The machinery of State hospitals was partly established in the fever and mental hospitals and the infirmaries. In the future the State was bound to extend its care of the sick, which was too important to be left to voluntary efforts. The personal interests of members of the staff of voluntary hospitals were secondary to those of the sick which were the chief concern of the State, but the staff would not necessarily suffer. Why should not medical men find in State hospitals the same opportunities for advancement and advertisement, and be paid instead of exploited? Arrangements for the instruction of students could easily be made. The four points Dr. Cook wished specially to emphasise were: (1) That infirmaries would become State hospitals, whereas the voluntary hospitals would exist only as long as their funds existed. The State must in time enlarge the State hospitals, subsidise voluntary ones, or do both. (2) The infirmaries should be given more resident medical officers. (3) Specialists should be available for consultation when required, and X rays, electric treatment, and pathological investigations should be possible. (4) Paying patients should be allowed; this would be a boon to thousands of patients of the middle classes.

Dr. R. H. COLE gave some historical data showing how much the Poor-law infirmaries have done for mental cases. There was now a movement towards the establishment of out-patient clinics at infirmaries for early mental cases. The practitioner at present found it difficult to deal with such cases. In Dr. Cole's opinion the infirmaries did very good work, but were still capable of vast improvement. The great difficulty was the question of money. He trusted that Dr. Addison's Bill would be reintroduced next session.

Mr. V. Z. COPE said that the good work done by certain infirmaries was undeniable, but there was great inequality and need for standardisation. He thought that the separation of the executive functions of the medical superintendent from the medical and surgical ones was desirable; one excellent surgeon had said he would willingly give up the clinical side of his work and administrate only. As to consultants, in one infirmary 12 consultants were available. Such an infirmary should be made the centre of post-graduate teaching for local practitioners.

Dr. ALEXANDER BLACKHALL-MORISON pointed out that the State Medical Service had not absorbed more than half the profession, and that there remained 12,000 at least who were endeavouring to reassert its freedom. Dr. Blackhall-Morison emphasised the political bearings of the present trend of affairs in medicine, which he deplored. He did not think that Poor-law infirmaries should be alienated from the purpose of their existence, the care of the necessitous poor who would always be with us.

Dr. H. W. BRUCE (Southwark Poor-law Hospital) said that a good medical staff meant a good hospital, and that the staffing was all-important if State hospitals were to succeed. The general practitioner must be brought into it. There were certain practical difficulties. For example, public hospitals must be run on economical lines—this was not so necessary in voluntary hospitals. The cheapest way of staffing was by a whole-time general practitioner as resident, but the part-time system had so many advantages that the economic aspect was overshadowed. Unfortunately, the part-time general practitioner would be wanted by his private cases and in hospital in the morning. Another difficulty lay in the selection between the general practitioners of the district. Again, the question of consultants was thorny. If the infirmaries were to remain localised the consulting staff would have to be drawn from that of the voluntary hospitals, but if they were made to serve a wider area—for example, if the metropolitan infirmaries were brought under the L.C.C., the medical staff would then be large enough to develop its own consultants from members of the service who specialised. As to the medical superintendent, his position as combined administrator, physician, and surgeon could not now be retained, and the scope of his duties must be narrowed, but his future as an administrator who would coördinate the work of the medical staff was not less important.

Dr. NATHAN RAW, M.P., said that the Minister of Health was responsible for the health service for the nation, and had to consider how best to render this complete and adequate. The Minister had shown great courage in framing the Bill recently rejected by the House of Lords, and it would doubtless be reintroduced. The relative merits of Poor-law infirmaries and voluntary hospitals were less important than the problem of how best to use the existing facilities in providing an efficient health service for the nation. Dr. Raw said that of the existing beds for the treatment of various disorders the Poor-law infirmaries provided 95,000 and the voluntary hospitals only 40,000, whereas approximately 290,000 are provided by the State. The 40,000 beds of the voluntary hospitals were totally inadequate to cope with the mass of illness in the country. Dr. Raw said that he hoped never to see a State medical service; the present proposition was the conversion of the Poor-law infirmaries into a municipal service. In 1897 a Liverpool infirmary with which he was connected had applied for the provision of an operating theatre. A special meeting of the Local Government Board had been called together to discuss this request, which involved an important matter of policy. It was then decided to outstep the law, to introduce modern equipment, and now some Poor-law infirmaries are as well-equipped as voluntary hospitals. The present position of chaos, in which two sets of hospitals were competing, must cease. There was no longer the same need for aid for the destitute poor as the pauper class was disappearing. The modern attitude of trade-unionists was to desire neither charity from

[1] See THE LANCET, 1920, ii., 1307.

voluntary hospitals nor relief from the Poor-law, not being paupers. The infirmaries, therefore, should, in Dr. Raw's opinion, be taken over by local authorities and be used by members of the community. At present no one could be admitted unless sent by the relieving officer, except in cases of urgency. Until the law was altered it was surely unwise of infirmaries to open their doors to non-urgent paying patients, as this was not legal. The remedy was obviously to legalise this procedure by transferring to local authorities. We all admired voluntary hospitals, but the public will no longer contribute now that so much is taken from them for the support of the 290,000 beds in State-aided hospitals. The principle of transference of Poor-law infirmaries to local authorities must be admitted. They would then be open to all citizens, who would pay according to their means, and would be admitted free if they could not pay.

Dr. J. C. MUIR (Whipps Cross Poor-law Hospital) considered it almost inevitable that hospitals should be supported more and more out of public funds. The difference between voluntary hospitals and the new hospitals would be that in the former teaching and research would be concerned with the advances of medicine, and at the latter the new knowledge gained would be put into practice.

Dr. C. L. TRAYLEN was glad to hear of an improved outlook for the general practitioner. It was encouraging to think that in the future they would be able to go into a hospital and see their cases through, as was now possible in the Willesden Cottage Hospital.

Dr. A. WITHERS GREEN said that disease was as much the business of the State as was the mud in the street. The insurance principle should be extended, and panel and Poor-law patients should be treated together in out-patient departments. There should be no payments made in infirmaries, but voluntary hospitals should charge fees. Dr. Green approved of the Gloucestershire scheme. He considered that general practitioners could not usefully be employed except to deal with out-patients.

Mr. HUBERT C. PHILLIPS said that great advances had been made in the infirmaries within the last 30 years. He thought the difficulty of selecting general practitioners for the staffs had been exaggerated. These appointments could be advertised and selections made from candidates by the medical superintendent in collaboration with a committee.

The PRESIDENT said that the same system could not be applied throughout the country; details must be left to the several districts. The linking up of voluntary hospitals with infirmaries was desirable; in some cases it might be convenient to affiliate two infirmaries to one voluntary hospital. As to the staffing, in Manchester the arrangement was that the junior staff of voluntary hospitals were attached to the infirmaries, and as they moved up their successors were automatically so appointed. There should be a combined medical committee of the staff of the voluntary hospital and of the infirmary attached thereto.

TUBERCULOSIS SOCIETY.

A CLINICAL meeting of this society was held at the Margaret-street Dispensary, London, W., on Jan. 24th, Dr. NATHAN RAW, M.P., the President, occupying the chair.

Method of Performing the Cuti-reaction.

Dr. HENRY A. ELLIS demonstrated his method of performing the cuti-reaction by making four parallel incisions, drawing blood in each case, on the anterior aspect of the forearm from above downwards, pure P.T.O. being inoculated into the uppermost and into the others successively dilutions of 1/10, 1/100, and 1/500. The reactions are classified as negative; subsensitive, if positive with pure tuberculin and the first dilution; sensitive, up to the second and hypersensitive when all are positive. A subsensitive reaction is a failing reaction and the prognosis is grave, because the case is probably acute and the tissues are unable to respond. So, too, if there be a general reaction without a local one, the prognostic significance is bad, while a high degree of resistance on the part of a woman is a much better sign than it is in a man. A sensitive reaction probably indicates that the case is more or less stabilised, and the clinical findings become of greater value. A hypersensitive reaction indicates that the responsive power of the patient is good and will probably justify sanatorium treatment.

Dr. D. M. BARCROFT emphasised the diagnostic significance of the triad—hæmoptysis, dyspnœa, and progressive loss of weight—in diagnosis, especially when physical signs were absent or uncertain, and Dr. F. HERNAMAN-JOHNSON showed the X ray plates of the same patients and of others, and Dr. CAMPBELL MCCLURE showed other cases. One of the objectives of the dispensary, according to Dr. McClure, is to correlate the findings obtained with the clinical signs and the radiographic appearances. On the whole the results of this "team-work" have so far been encouraging and manifest concordance in about eight out of ten cases, though differences of opinion occurred in interpreting the varying conditions met with in tuberculosis of the lungs. Dr. Hernaman-Johnson stated that he had never seen a case under the X rays of apical tuberculosis without involvement of the hilus, and that, in his opinion, tuberculosis of the lungs was primarily a hilus disease which spread therefrom, fanwise, towards the apices. On the assumption that the striæ which are seen radiating from the hilus to the apex depend for their manifestation upon the deposition of calcium in the walls of the lymphatics, an attempt has been made to demonstrate similar "lines of calcification" from enlarged cervical glands downwards towards the apices, but hitherto without success.—A series of X ray photographs were also shown illustrating difficulties occasionally met with in diagnosis, such as carcinomatous stricture and pouch of the œsophagus, aneurysms, &c., together with a screen case in which, probably as the result of fibroid contraction, the heart had been completely pulled over to the right side. Dr. G. MACDONALD exhibited an extensive case of lupus of the face, which, after a course of tuberculin had failed, was cured by the application of brass-paste.

Cultures of Tubercle Bacilli.

The PRESIDENT showed three cultures of tubercle bacilli of historical interest. The first was the 180th subculture of a bacillus of the human type which he originally obtained from Koch in 1906, the subcultures having been made every month without a break; the second of bovine type from a calf which he obtained from Calmette, then of Lille, in the same year, also in its 180th subculture, and the third of bovine type from a pig which had been given to him by Bang, of Copenhagen, in 1907 and similarly subcultured. All were living and growing true to type, but completely avirulent.

Dr. F. R. WALTERS proposed, and Dr. JAMES WATT seconded, a hearty vote of thanks to Dr. McClure and those associated with him in providing so instructive an evening. It is hoped to hold a series of clinical meetings during the session.

SCOTTISH SOCIETY OF ANÆSTHETISTS.

A MEETING of this society was held on Dec. 4th, 1920, in Edinburgh, with Dr. H. TORRANCE THOMSON, the President, in the chair.

Dr. THOMSON read his inaugural presidential address on

Post-operative Morbidity in Relation to General Anæsthesia.

He said that although many conditions falling into the category named are not directly under the control of the anæsthetist, it is essential that he should be fully acquainted with the literature and current theories of the subject, so that he may play his part in securing improved results. Dr. Thomson reviewed recent work under the three headings: (1) nausea and vomiting;

(2) chest complications; (3) shock. As to nausea and vomiting recent work did point to some connexion between diminution of alkali reserve and after-vomiting, but that was not the whole problem. The use when possible of nitrous oxide oxygen, smooth administration of the least possible quantity of anæsthetic and gentleness of manipulation on the part of the surgeon, were all factors in its prevention. On the whole, he favoured the preliminary use both of narcotics in moderate dose and of alkalis. As to chest complications he thought that skilful administration was of more importance than the mere choice of anæsthetic. In cases of so-called ether bronchitis or pneumonia he thought the patient usually had a pre-existing catarrh, a point too little recognised by surgeons. Prevention of skin-chilling during operation and transit back to bed also demanded careful attention. The warming of anæsthetic vapours might diminish local irritation of air-passages, but its effects on after-results were not proved, so far as prevention of respiratory complications was concerned. As to shock, the work and literature of the war had shown some connexion between acidosis, falling blood pressure, and clinical shock. It was, however, in cases showing marked diminution of pressure before operation that the connexion seemed closest. From the anæsthetist's point of view such cases should be given gas oxygen. The practical difficulties were the lack of proper plant in many hospitals and the cost and trouble of transporting the apparatus in private work, which would involve raising the standard of remuneration for anæsthetic work. Summing up the whole question, Dr. Thomson thought that the essentials in the prevention of complications were: (*a*) that anæsthesia should never be pushed to a degree greater than was absolutely essential, and that in this respect the surgeon should learn not to be too exacting; (*b*) that Crile's pre-operative anti-emotional technique should be carried out as far as possible; (*c*) that excess in fasting and purgation should be avoided; (*d*) that alkalis and a moderate dose of narcotics should be given before operation.

Dr. H. P. FAIRLIE said, with reference to vomiting, that he was glad to hear a warning regarding the excessive starvation and purgation which are so often prescribed before the administration of an anæsthetic. He agreed that they tended rather to encourage than to prevent post-anæsthetic vomiting. He recalled a measure advocated by the late Dr. Renton—the placing of the patient in the sitting posture after operation. He said that it rendered vomiting less likely to occur, and less objectionable when it did occur. The use of preliminary atropine helped in the prevention of vomiting, and also in the prevention of post-anæsthetic bronchitis, by diminishing the secretions in the mouth which are so liable to be swallowed and inhaled, acting then as an irritant. As to shock, the official publications had impressed him also as being very valuable contributions to the knowledge of this subject and of acidosis. Dr. Fairlie had had considerable experience of gas and oxygen as an anæsthetic, and had found it to be expensive, to require a bulky outfit, and often, especially in abdominal operations, the addition of ether. But he nevertheless agreed that in many operations it was a most valuable anæsthetic. It was safe, it diminished shock, and it left the patient in a much happier state than did ether or chloroform, sickness being less frequent and less severe after gas and oxygen than after either of the other anæsthetics.

Exhibition of Cases.

The PRESIDENT reported a case of a 10 days old child anæsthetised by chloroform-open-ether for an operation lasting a few minutes only. No incident of note during the operation, but the child died suddenly ten days later; post mortem typical status lymphaticus was found.

Dr. D. LAMB recorded a case of Secondary Syncope after breath-holding during an induction by chloroform of a woman some years ago. The respiration began again after the use of artificial respiration and persisted for 40 minutes, although there was no pulse, and with the exception of the chest movement the patient was apparently dead.—Dr. J. S. ROSS said he had seen something of the same in a dog, but never in a human being, nor did the condition persist for more than a minute or two.

Dr. JOHNSTON recorded the case of a woman who had a Pott's fracture reduced under nitrous oxide, and who died ten minutes after recovery from the anæsthetic. Post mortem thrombosis was found in the femoral artery and vein of the affected limb and an embolus in the pulmonary artery.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.

Psychotherapy.

A MEETING of this society on Jan. 12th was devoted to a discussion on Psychotherapy. Dr. L. E. V. EVERY-CLAYTON presided.

Dr. R. G. GORDON said that the time had come to consider how much value can be attached to the three methods of psychotherapy—"suggestion," "persuasion," and "analysis." For hysterical symptoms persuasion was the method of choice. This consisted in giving the patient a full insight into the reasons underlying his condition and encouraging him to employ the function the use of which he has forgotten. It might be found that underlying the hysterical symptom was an anxiety neurosis, and for this analytical treatment was necessary. Dr. Gordon discussed and criticised the methods of Freud and Jung, and those adopted by the English schools, and advocated those expounded by Rivers, Hart, and Ross. He pointed out that psycho-analysis in unskilled hands and unbalanced minds was a dangerous weapon, but that the profession as a whole were not alive to all the possibilities of psychotherapy and often failed to realise how much of the material they have to deal with is functional and curable. The absence of training in medical psychology in the course of the education of the doctor was a serious defect, since at least 40 per cent. of the cases which a general practitioner had to treat were, he said, neurotic.

Professor LLOYD MORGAN pleaded for closer union between academic and clinical psychology, referring to an article recently published by him advocating the teaching of psychology to medical students. He asked the clinical psychologists to "nail their colours to the mast," and to state to which school of psychology they adhered.—Dr. J. R. R. TRIST spoke of the work of a neurological clinic of the Ministry of Pensions, and illustrated the impossibility of separating psychotherapy from other forms of treatment by data regarding the incidence of tuberculosis among neurasthenic ex-Service men.—Dr. H. H. CARLETON referred all conflict to a struggle between the egotistical instincts on the one hand and the higher more recently acquired altruistic motives on the other, and alluded to the importance of the "herd instinct."

Mr. O. H. WOODCOCK confessed himself an adherent of the animistic school of psychology. As a means of preventing psychical disorders he declared his belief in educating the individual to a better understanding of himself and his relation to the cosmic order.—Dr. J. R. CHARLES criticised the philosophy on which modern psychotherapy is founded, pointing out that "conflict" is not merely inevitable but actually necessary as a means of education for the individual and the race. He deprecated the use of hypnosis as a therapeutic measure.—Dr. C. F. COOMBS alluded to the disturbances of visceral function that arise from the psychoneuroses, and also to the part that similar disturbances often play in aggravating the symptoms of organic disease.—Dr. E. T. GLENNY attacked the work of the psycho-analysts, particularly on the grounds that it was falling into the hands of practitioners with inadequate experience of organic disease, and that undue insistence on sexual motives was discrediting the profession in the eyes of the public.—Major A. E. J. LISTER, I.M.S., described the case of an Indian soldier and his recovery from a psychoneurosis by means of auto-suggestion.—To these comments and criticisms Dr. GORDON replied.

Reviews and Notices of Books.

PREVENTION OF VENEREAL DISEASE.

By Sir G. ARCHDALL REID, K.B.E. With Introductory Chapter by Sir H. BRYAN DONKIN, M.D. Oxon., F.R.C.P. London: William Heinemann. 1920. Pp. 447. 15s.

THE struggle between the National Council for Combating Venereal Diseases and the Society for the Prevention of Venereal Disease has been watched with interest by medical men and sociologists. Parliamentary debates, articles and letters in our own and other professional journals, White papers, and manifestos have marked its course, but this volume contains the first authoritative and comprehensive exposition of the opposed views. Sir Archdall Reid and Sir Bryan Donkin—who contributes a valuable introduction—are well qualified to produce such a work; it is issued under the auspices of the Society, and is welcome as a statement of the position and tenets of that body. A complementary statement from the Council would be equally welcome; particularly interesting would be the history of the Council's present attitude with regard to immediate disinfection.

It is necessary to realise clearly the standpoint from which this book is written, for an impartial outlook cannot be expected from an author writing in the interest of one side or the other. The work deals primarily with one aspect of prevention; its object is instruction as to "prompt employment of simple antiseptic measures which will effectually destroy the infective agents of syphilis and gonorrhœa before they enter the body tissues and thus definitely prevent the occurrence of disease." In his introduction Sir Bryan Donkin gives a brief résumé of the more recent history of the prevention campaign—by "prevention" is meant "immediate disinfection"—and of the opposition it has met with. He emphasises the present necessity for "a public and unbiased inquiry on the whole matter, including, of course, the official Note to the Minister of Health ..... as well as any subsequent documents on the question which have issued or may issue from the office of that Ministry." Sir Archdall Reid first indicates the urgency of the problem. The figures concerning the civil population need not be discussed, as they are frequently encountered in other publications. He remarks that at the time of the German offensive in 1918 there were in the V.D. hospitals or in the convalescent depôts not only an army corps but a great army of trained soldiers otherwise fit, "complete from almost G.O.C. to trumpeter," all of whom had become diseased after the authorities understood prevention. "These," he says, "were put out of action and the Allied cause brought to the verge of ruin by the fanaticism of a few 'influential people' and the complaisance and timidity of a few obliging officials."

Chapters are devoted to a consideration of "instinct and reason," "development of mind," and "inclination and morality." The author believes it to be impossible to reach a decision concerning the right and wrong of prevention until we know why some individuals are inclined to be sexually moral and others sexually immoral; his statements under these headings are interesting and stimulating, although we cannot agree with all of them. Opposition to sanitary measures he finds to be based on the contentions (*a*) "that such measures would be ineffectual," and (*b*) "that they would make vice safe and so encourage immorality." He points out that these statements are contradictory, but are reconciled by the assertion (*c*) "that though effective sanitary measures are impossible the public would believe in and practise them with the result that both immorality and venereal disease would receive an impetus." It is the deduction which is in question.

In the author's opinion it is uncertain whether fear acts as a deterrent: we believe it to do so in a very small number of people; moreover, we consider it immoral to withhold knowledge whereby infection may be prevented, lest fear, the last remaining barrier against vice, be removed. It is immoral to bolster up the false morality of those who are restrained by fear, when by so doing protection is withheld from those determined to expose themselves to risks which will in many instances bring suffering and disease to the really innocent. We are glad to see that Sir Archdall Reid exposes the equally immoral attitude of silence as regards sexual matters in dealing with the young; we would, however, suggest that he does not appear to realise the present widespread overthrow of this pernicious reticence. He has also apparently failed to grasp the fundamental importance of the work of the Royal Commission on Venereal Disease. The Commission succeeded to a remarkable extent in the creation of a new atmosphere, to which are practically due the candour and publicity with which sex matters have since been discussed in the councils of the nation, in the press, and in many other ways.

Chapter IX. is devoted to "V.D. in the Army"; we could wish that the author had extended his horizon and given more information, but two important statements appear in this short chapter: (1) owing to a lack of anti-venereal measures the colonial troops suffered so greatly that at one time the Australasian Government were reported to have threatened to withdraw their forces unless better protective measures were taken; (2) in Sir Archdall Reid's own experience existing sanitary measures were, for the first 18 months, practically a dead letter; when the authorities established venereal ablution rooms much good was done, but many cases still occurred. The author lost patience, and, on his own initiative, at considerable risk of official censure or even deprivation of his command, introduced a system of immediate self-disinfection. "Immediately venereal disease vanished from my units. For six months not a single case occurred. In two years and four months, during which quite 20,000 men must have passed through my hands, only seven men were infected. I saw many cases of venereal disease, but these were all among men who had contracted it elsewhere."

"Of these seven cases—six of gonorrhœa and one of syphilis—two were contracted from their own wives by men on leave, two occurred in men so drunk at the time of infection that they had little or no recollection of what had happened, and could only be sure that they had used no antiseptics; one man joined the station late in the afternoon, and contracted disease the same evening. He had received no lecture and had used no disinfectants. The last two men, one of whom developed syphilis, delayed disinfection till their return to barracks, one more than an hour and the other more than two hours after intercourse. They told me that they thought it would be sufficient if they followed official directions and used both the permanganate and calomel."

We are bound to state that when the author gave evidence before the Inter-Departmental Committee the value of his work, which has produced such magnificent results, was subjected to the gravest suspicion. A perusal, however, of his own statements, which can be verified by reference to official figures, and a realisation of the lack of pertinency of questions put to him at the Committee, impress us most strongly with the belief that by means of quick disinfection he achieved results which might with great advantage have been universally used throughout the Army.

The subjects of "comparative statistics" and "civilian treatment centres" are graphically treated. The author contends that no one would attend such centres—that the real intention is for sinners and their millions of innocent victims to stew in their own juice. "What other explanation," he asks, "except an unbelievable degree of folly on the part of the Council, can be thought of?" Without holding any brief for the National Council, fairness compels us to enter a protest against the above inference. Experience has shown that sufferers do attend early treatment centres; and if the intention were to allow retribution to descend on sinners and their victims the logical attitude would be to make no attempt at early treatment, or, as it should be termed, "delayed disinfection." The formation of

these centres may be open to criticism, but the statement quoted is neither deserved by those responsible nor worthy of its writer.

The remainder of the work contains an account of the labours of the Inter-Departmental Committee, whose official report should be carefully studied by our readers. Speaking frankly, and without any reference to Sir Archdall Reid, we regard that work as a failure. It must be realised that no member of that body was known to be in favour of early disinfection and many were against it. The report was signed only by the chairman; if there was dissent from the conclusions published nothing of it was made public. Sir William Osler and Lord Dawson were invited to give evidence before the Committee; no mention is made in the Note of their opinions, which have elsewhere publicly and strongly been stated in favour of self-disinfection. An account of the activities of the Society with "Lord Sandhurst's Apologetics" and various interesting appendices are also included.

We sincerely hope that this work will secure the attention it deserves. It is the outcome of the honest efforts and sincere thinking of one who has realised the dimensions of the menace of venereal disease. Two fundamental questions present themselves: 1. Is the author's method for prevention efficient? We believe with full realisation of statements made to the contrary, that there would be no difficulty in instructing the public along these lines. 2. Is it desirable, on the widest grounds, that such knowledge should be promulgated? Here is a difficulty, serious, but not insurmountable. The necessary information should be placed before the public in such a way that suggestiveness is completely avoided; it should be accompanied by the statement that absolute safety lies only in continence, and that promiscuous sexual indulgence is fraught with physical risk, not only to the individual, but to the nation. We thoroughly appreciate the view that information on sex matters should be widely extended to children, but special care should be taken in promulgating knowledge of means of self-disinfection that the young should not be unnecessarily injured. We do not believe that the extension of such knowledge to the public will increase promiscuous sexual intercourse. At the present day the existence of condoms is known to practically all adults, yet many remain chaste, although such appliances are flagrantly available. The object of both forms of protective measures is the same. The public generally already believes in the absolute efficacy which is afforded by condoms. Advice as to immediate disinfection would secure greater provision for their safety without providing increased inducements for promiscuous sexual intercourse. In conclusion, we hope that when the second edition of this work appears its author will see his way to eliminate certain personal, thoughanony mous, references, which, in lack of taste, afford a striking contrast to an otherwise powerfully written and valuable volume.

A GUIDE TO ANATOMY.

For Students of Medical Gymnastics, Massage, and Medical Electricity. By E. D. EWART. London: H. K. Lewis and Co., Ltd. 1920. Pp. xii. + 301. 16s.

THIS book, as the title informs us, is intended for students of massage, &c., and is therefore not to be taken as an elementary guide to the whole anatomy of the body. Miss Ewart is well qualified to know the anatomical needs of the class of students for whom she writes, but, surely, some teaching on the situation and association of the ovaries and uterus might be of more utility than short details of rotatores spinæ and intertransverse muscles. Such criticism apart, it can be said that the text of this little work appears good and clear and accurate if necessarily abbreviated. The spleen, we observe, has a hilus, whereas the kidney, more accurately, is said to present a hilum. The illustrations are clear, and will serve their purpose satisfactorily, but we notice several errors in detail: thus, the line of the buccinator in Fig. 9 gives no area for the gums, the petro-sphenoid suture is out of place in Fig. 11, the psoas is not on the back of the small trochanter, as shown in Fig. 28, nor does the pectoralis minor leave the second rib clear as in Fig. 38. These and similar small inaccuracies do not, however, detract from the utility of the book. Chapters on surface-marking follow each section, and some examination papers are placed at the end.

DIE WURMFORTSATZENTZÜNDUNG.

Eine pathogenetische und histologische Studie mit besonderer Berücksichtigung der Bedeutung der Helminthen, speziell der Oxyuren, und wichtiger allgemeiner klinischer Gesichtspunkte. By Dr. A. RHEINDORF, Prosector am St. Hedwigs-Krankenhaus zu Berlin. Berlin: S. Karger. 1920. Mit 52 Abbildungen. Pp. 244. M.18.

THOUGH helminthic infections of the appendix had been previously noted, it was Metchnikoff (1901) who first drew attention to their ætiological significance in appendicitis. Since these views were expressed two schools of thought have arisen. These are: (1) the followers of Aschoff, whose monograph on appendicitis appeared in 1908, who regard the presence of worms in the appendix as of secondary significance; and (2) those like the writer of the treatise under review, who consider the helminthic infection of primary importance in the production of inflammatory conditions of the appendix.

It is the object of this treatise to establish the view that helminthic infections of the appendix, chiefly those due to oxyuris, and, to a less extent, trichocephalus and ascaris, lead to primary alterations in the structure of the organ, so that secondary bacterial invasion takes place. The author studied a large amount of material in the shape of appendices removed by operation, especially during the war, both from adults and children. In addition, material from individuals killed in the war was also collected. Dr. Rheindorf appears to have conducted his investigations very carefully and has studied the appendices in serial section, the only method which will give reliable information as to the presence or absence of helminths or the lesions they produce. The first chapter of the book is mainly historical and summarises the views held as to the ætiology of appendicitis. In the second chapter are described the various changes induced in the appendix by helminths. The findings are illustrated by excellent microphotographs, which clearly show the lesions produced by the worms. The largest number of oxyuris found in an appendix was 684. Chapter III. is devoted to the clinical aspect of these worm infections. In most cases there are no symptoms, but in certain individuals, who must be assumed to have an idiosyncrasy, definite symptoms arise in the form of irregular febrile attacks, abdominal pains, often localised in the appendicular region, and various neuroses, quite apart from an actual appendicitis. In Chapter IV. the pathology of appendicitis is considered, with special reference to the relationship between the primary helminthic lesions and the subsequent secondary inflammatory condition. Aschoff's view that the latter is primary, and not the result of the changes produced by the worms, is contested, and it is suggested that Aschoff's method of examination led him to overlook the helminthic element in the vast majority of the 1000 cases he studied. In Chapter V. are given figures illustrating the frequency of helminthic infections in men killed during the war in Germany and other countries. In a series of appendices removed at operation oxyuris was found in 50 per cent. of the cases, whereas in the organs from men killed in the fighting oxyuris was found in only 5 per cent. As the author remarks, these figures speak for themselves. Chapter VI. treats of the important subject of prophylaxis. In Dr. Rheindorf's opinion oxyuris is primarily responsible for the overwhelming majority of cases of appendicitis, so that an early eradication of this infection would be followed by an almost complete disappearance of the disease. To accomplish this result an organised campaign against the worm is necessary; the danger of its presence in the bowel must be widely known, and a means must be discovered not only of

diagnosing its presence, but of effectively ridding an individual of every trace of the infection.

The treatise is full of interest, and it must be admitted the writer produces facts in support of his arguments. Whether pathologists generally will agree with him remains to be seen. Nevertheless, the views expressed are worthy of careful consideration by all those interested in the ætiology and prevention of such a widespread disease as appendicitis.

MACEDONIA: A PLEA FOR THE PRIMITIVE.

By A. GOFF and HUGH A. FAWCETT, M.R.C.S., D.P.H. London: John Lane. 1921. Pp. 274. 21*s*.

THIS is a curiously simple work. It is evidently written by two young observers to whom the East before their visit was a sealed book, and it records their impressions with a freshness and naïveté altogether delightful. It is a pleasure in these days of introspection and analysis to come across a book in which the writers solemnly record the fact that a tortoise lays eggs or that the Greek Church observances are marked by elaborate ritual. We can sympathise with the writers' pleasure at seeing the primitive Oriental methods of agriculture, ploughing, thrashing, winnowing, and the like; for an observer who sees these for the first time will at once have a clearer idea of the meaning of sundry passages of Scripture and of the whole of the Georgics than he ever had before. But if, when describing things seen the authors are trustworthy, when they wander into the by-paths of history they flounder. It would be difficult to find a more inaccurate statement than the following (p. 179):—

"The Greek Church as at present constituted was founded by the Roman Byzantine Emperor, Constantine the Great, who, having been converted to Christianity in A.D. 312, lent his support to the orthodox bishops at a great Christian Council at Nicæa (Nice) in the same year."

Now, the Council of Nicæa (the first General Council) was held in A.D. 325, and Constantine no more supported the orthodox bishops at that Council than the King supports either the Conservative or Liberal party at a General Election. The King accepts the verdict of the majority, and so did Constantine. The figures at the Council were: for the insertion of the word "consubstantial" (the orthodox point), 286; against (the Arian point), 17. All that the Emperor did was to confirm the judgment of the Council.

The best part of the book is supplied by the singularly charming reproductions of drawings and water-colours by Mr. Fawcett, and the account of the Plain of the Struma is admirable. It is curious that in their account of the birds the writers make no mention of the crane, the "Strymoniæ grues" of the Georgics.

THE SCIENCE OF EATING.

By ALFRED W. MCCANN. London: Evan Brothers, Ltd. Pp. 408.

IF the statements made by Mr. McCann in this book are true, food conditions in the United States are as bad, if not worse, than they were in this country when, some 70 years ago, THE LANCET entered upon its inquiry into food and its adulterations. It is a pity that Mr. McCann writes in the very worst style of "journalese," for his book is interesting and contains many home truths; but a writer who uses such terms as "kidneycides" and "meatology" is singularly irritating to his readers. (Does anyone recall the veracious history of Mr. Downey V. Green? If so, he will remember Mrs. Cheney's description of Dr. MacGuffin, of Goober Valley, who built up the science of mindology, together with existology and hominology.) However, although Mr. McCann's language be trying, we can go far with him in his strictures on denatured foods, flour that is practically starch, and canned abominations of various kinds. Mr. McCann is severe on those who eat too much meat. In this country, whatever may have been the case in the past, we do not think the population eat too much meat now. Another good point made by Mr. McCann is the wastefulness of throwing away the water in which vegetables have been boiled. Such water should be put into the stock-pot.

JOURNALS.

British Journal of Experimental Pathology. December, 1920. London: H. K. Lewis and Co. 7*s*. 6*d*.—The present number of this journal completes the first volume, which, when bound, will open with an apposite quotation from that wise philosopher, John Locke.—The Ætiology o Epidemic Influenza: Experiments in Search of a Filter-passing Virus, by H. B. Maitland, Mary L. Cowan, and H. K. Detweiler. The authors carried out their investigations during an epidemic of influenza at Toronto in the spring of 1920. In spite of the most careful work no evidence for a filter-passing organism could be obtained.—The Influence of the Reaction of Media and of the Presence of Buffer Salts on the Metabolism of Bacteria, by C. G. L. Wolf. The formation of toxin in cultures of vibrion septique is influenced by the presence of a buffer salt—sodium phosphate. The toxin had a higher potency than the control and a better "keeping" quality.—The Effect of Surgical Anæsthesia on the Reaction of the Blood, by J. B. Collip. The author suggests that during surgical anæsthesia two processes, which are mutually antagonistic, are active, one the "acidotic process" of Haggard and Henderson, due directly to disturbance in metabolism as a result of anæsthesia, the other the "overventilation process." Whether the hydrogen-ion concentration of the blood falls, rises, or remains unchanged during surgical anæsthesia would therefore depend upon the relative intensities of these two processes.—Glycogenic Infiltration of the Liver of Laboratory Rabbits, by H. M. Turnbull. This paper is illustrated by two very beautiful drawings, which show that the histological changes seen in ordinary microscopic preparations of the rabbits' liver, when infiltrated with glycogen after a suitable meal, resemble closely those of a severe parenchymatous degeneration.

Journal of Hygiene. Edited by G. H. F. NUTTALL, F.R.S. Vol. XIX., No. 3. January, 1921.—The first paper in this issue of the journal is by G. W. Grabham, M.A., F.G.S., and deals with Some Factors in Thermal Sanitation in the Tropics. The results are given of a number of experiments on the temperatures reached by different coloured cloths and paints exposed to sunlight; the general result is that white clothing is cooler than that of any other colour. The explanations for this are discussed. Texture and translucency of material are also considered.—The Wassermann Test in Patients Affected with Malaria in the Tropics, by F. H. Hehewerth and W. A. Kop. The following results were obtained by the authors: malarial infection causes a positive Wassermann reaction in 50 per cent. of cases in natives; the reaction disappears as a rule under quinine treatment, but may persist three to six months.—Clinical Investigation of Xerophthalmia and Dystrophy in Infants and Young Children (Xerophthalmia et Dystrophia Alipogenetica), by C. E. Block, M.D., Professor of Pediatrics in the University of Copenhagen. A preface to the article is contributed by the Accessory Food Factors Committee (appointed jointly by the Lister Institute and the Medical Research Council). Dr. Bloch by clinical observation arrived at conclusions concerning the importance of certain kinds of fats for nutrition and growths which McCollum reached by experimentation on animals. He gives the term dystrophia alipogenetica to the condition of ill-health which results from deprivation of such fatty foods as butter and milk. Associated with inhibition of growth there is an increased susceptibility and lowered resistance to all infections, including xerophthalmia. The best treatment is the administration of cod-liver oil, but whole milk, butter, eggs, and other fats containing the specific body are also curative. The disease is more common in Denmark than in other countries, the reason apparently being that Denmark exports most of its dairy produce, especially butter. This is borne out in an interesting observation made by Dr. Bloch during the Great War. When the German submarine blockade became established in February, 1917, the import of fodder for cattle was completely stopped. The Danish Government was therefore compelled to take control of all butter and ration it so that everybody, adult and child, was entitled after Dec. 21st, 1917, to 250 g. of butter a week, which was sold at such a low price that all could buy it. From that moment everyone ate butter instead of margarine and since then there has been no xerophthalmia in Denmark.—The Water-supply of the Egyptian Expeditionary Force, with Special Reference to the Efficiency of Mechanical Rapid Filtration with Chlorination, by R. J. S. McDowall, M.B. The water supplied to our troops in Palestine came from the Nile and was rendered potable by rapid filtration and chlorination.—The Chemotactic Effect of Osmosis upon Leucocytes, by F. Maltaner and Ella Hoppe. By means of a number of ingenious experiments the authors show that leucocytes move into solutions of higher density than the solution in which they are suspended. The general rule appears to be that leucocytes move in a direction opposite to that in which dissolved substances are diffusing.—Malaria in England, with Special Reference to the Rôle of Temperature and Humidity, by Lieutenant-Colonel C. A. Gill. This is an interesting communication upon an important subject.

FRENCH SUPPLEMENT TO THE LANCET

Under the Editorial Direction of

Professor CHARLES ACHARD, PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF PARIS. AND Dr. CHARLES FLANDIN, D.S.O., CHEF DE CLINIQUE A LA FACULTÉ DE PARIS.

RETROLABYRINTHINE INVESTIGATION IN OTITIC SUPPURATION OF THE POSTERIOR CEREBRAL FOSSA.

BY DR. A. HAUTANT,

OTO-LARYNGOLOGIST TO THE PARIS HOSPITALS.

IN the presence of endocranial complications of aural origin otologists are united as to the necessity of including in their surgical interventions the following three processes: evacuation of the original lesion of the middle ear; exploration of the parameningeal lesion which conveys the otitic suppuration to the endocranium; and, if necessary, an attack on the endocranial lesion itself. The most important of these processes is exploration of the intermediate lesion, the link between ear and meninges, because (*a*) endocranial complications are frequently at the outset only accidents of juxtaposition, a kind of collateral œdema disappearing upon drainage of the otitic lesion and evacuation of the parameningeal abscess; (*b*) endocranial complications do not arise by chance—they develop at the point where the original lesion comes into contact with the meninges, and the surgeon is guided straight to them by the intermediate lesion. It is generally sufficient to explore this lesion in two directions: (1) at the level of the roof of the attic and the antrum; (2) at the level of the posterior surface of the mastoid. It sometimes happens that this investigation bears no result; a third means of approach is then employed—the internal ear. This last is a new method only employed for about ten years.

Importance of Suppurating Labyrinthitis.

The signs of invasion of the internal ear by infection (total unilateral deafness and absence of the nystagmic reflex) are often observed in otitis with endocranial complications. Injury of the labyrinth always proves the gravity of the infection, but its presence does not necessarily imply that the infection has passed from the tympanum to the endocranium through the internal ear. Whilst attacking the labyrinth, infection may spread to the meninges by means of the roof of the attic or the posterior surface of the mastoid. The establishment of labyrinthitis should not be a signal for neglect of the other routes of infection. It is necessary to point out this restriction of the importance of suppurating labyrinthitis, for although its frequency has been justly insisted upon, its importance in surgery of the ear has been overestimated.

These reservations once admitted, suppurating labyrinthitis, none the less, represents an important intermediate stage between infections of the middle ear and of the endocranium, from two points of view: (1) Infection of the labyrinth often gives rise to defensive lesions which must be respected, but it can also provoke vestibular abscesses, granulations, cholesteatomata, and sequestra, which call for surgical intervention; (2) labyrinthine infection reaching the endocranium can cause localised meningitic lesions (*a*) in the internal auditory passage, where a kind of intrameningeal abscess is formed to which surgical approach is almost impossible, and (*b*) on the posterior surface of the petrosa, behind the vestibule, in the neighbourhood of the endolymphatic sac, an extra- or intra-dural abscess can appear, easily reached surgically, and often constituting an intermediate stage leading to encysted meningitis or to a cerebellar abscess. In this way the retrolabyrinthine region is the third area to demand the aurist's attention in labyrinthine lesions with endocranial complications, if and when he has failed to find the connexion between ear and endocranium in the attic or on the posterior surface of the mastoid.

Anatomical Formation of the Semicircular Canals.

Exploration of the retrolabyrinthine region necessitates resection of the bony mass of the semicircular canals; for this process knowledge of the formation of the latter is necessary.

(1) Normally this mass, situate behind the vestibule and within the mastoid antrum, is composed of semicircular canals, notably of the canalis semicircularis posterior and the loop of the canalis semicircularis lateralis. These canals are contained in the labyrinthine capsule, which is of very compact hard bone, well named "petrous"; they are sometimes surrounded by diploëtic tissue, by cells connected with the mastoid cells, or, in exceptional cases, in large, deep, retrolabyrinthine cells.

(2) In a pathological condition two facts are to be remembered: (*a*) in acute mastoiditis the diploëtic tissue, or even the retrolabyrinthine cells, may disintegrate and form a large purulent mass situate behind the labyrinth, sometimes approaching the internal auditory canal and capable of giving rise to an extra-dural retropetrous abscess; these are really aberrant sinuses of the acute mastoidal lesion and have nothing to do with the lesions deriving from the labyrinth with which we are now dealing; (*b*) in chronic mastoiditis, during the course of chronic otorrhœa, the mastoidal cells disappear; a process of condensing osteitis has transformed the diploë into compact bone, and the retrolabyrinthine tissue becomes a bony mass extending from the vestibule to the cerebellar dura mater. If this chronic mastoiditis is complicated with labyrinthitis (the osseous lesions of which have extended to the cerebellar surface of the petrous bone) the following three important levels are encountered behind the labyrinth when approaching the cerebellar fossa from the antrum: (1) the internal surface of the antrum; (2) a very compact bony mass, half a centimetre thick, containing tho canalis posterior and the loop of the canalis lateralis; (3) in pathological cases, near the dura mater, at the height of the endolymphatic sac, osteitis and granulations, and sometimes a small extra-dural agglomeration of pus.

Thus the presence of lesions at the level of the retrovestibular cul-de-sac cannot be discovered by any sign during exploration of the cavity of a petro-mastoidal ulcer; these lesions are established by a devious route, infection reaches the vestibulum, and by a deeper and retrograde course arrives at the retropetrous region of the endolymphatic sac. They require systematic search, for their presence is determined by a process of reasoning, not by advancing step by step through osseous lesions, as is usual in exploration of the attic or of the posterior surface of the mastoid.

Conditions Necessitating Retrolabyrinthine Exploration.

Three conditions are necessary to warrant retrolabyrinthine investigation.

(1) There must be a retrolabyrinthine lesion; this is understood, since in chronic otorrhœa infection can only reach the retrovestibular region through the labyrinth. The lesion may be irritative, but that is not enough. Cholesteatoma of the middle ear may set up erosion and irritation of a canal—as digital compression on the eyeball irritates the retina—and may induce intense vertigo. If the nystagmic reflex still exists, the labyrinth is still intact, and there can be no question of opening it, still less of exploring the deep retrovestibular region. The labyrinthine lesion must be destructive; infection has crossed the labyrinth and destroyed it. The absence of the nystagmic reaction proves its destruction. This systematic investigation is necessary; no functional sign gives a clue, for the "quietest" labyrinthine lesions are the gravest.

(2) Infected lesions of the cavities of the ear must be "re-lit"; the signs indicating this reinfection and the first invasion of the endocranium are headache (chiefly occipital), rise of temperature (even very slight), modification of the cerebro-spinal fluid, augmentation of albumin content, hypertension, hyperleucocytosis. In fact, if the lesion is not reinfected intervention can be limited to the middle ear, or to the vestibule if necessary; it is useless to explore the retrolabyrinthine region and the posterior cerebral fossa if they give no sign of pain.

(3) No other intermediate lesion must be found, during the operation, between the cavities of the middle ear and t endocranium. It is obvious that, if an abscess about a sinus,

or an extra-dural abscess on the roof of the attic, has already been disclosed, it is useless to make a systematic search for a retrolabyrinthine abscess. In the absence of such lesions, the first two conditions named being already present, the vestibulum must be opened and explored, and the vestibular cul-de-sac examined. It is true that the results of this examination will often prove negative. It is not necessarily the key to all unexplained instances of spread of infection from the middle-ear to the endocranium. It must not be forgotten that infection may travel by the internal auditory canal, which is practically unexplorable, or by the venous or lymphatic channels. However, the possible existence of a retrolabyrinthine abscess, sufficiently easily accessible, and the results which have been obtained, permit us to advocate a search for it under conditions thus prescribed.

Retrolabyrinthine Abscess.

Lesions encountered in the region of the retrolabyrinthine dura mater are similar in every respect to those observed in the roof of the attic—viz., fistula, osteitis, extra-dural abscess; but empyema of the endolymphatic sac forms an exception. There is here a point of pathological anatomy not yet determined; it may be that pus collects between the membranes of the dura mater without the certainty of a connexion with an endo-lymphatic abscess. In order not to prejudge its histological nature I have called this abscess "retrolabyrinthine." It is a small abscess, never exceeding the size of a large lentil, and always extra-petrous, which latter fact differentiates it from the aberrant mastoidal abscesses always confined to the petrosa. It is also extra-meningeal, never passing the dura mater, and thereby escaping all confusion with encysted meningitis. I have observed five instances of this abscess in about 20 cases of labyrinthine lesion with endocranial complications of otitic origin. About 30 scattered cases are to be found in medical literature.

Technique.

The technique of retrolabyrinthine exploration, although simple enough, is hard to describe.

1. To resect the bony retrovestibular mass and uncover the region of the endolymphatic sac the following procedure is necessary: (*a*) Lay bare the dura mater before and behind the lateral sinus to the entire height of the lateral portion of the sinus; lay back this cerebellar dura mater behind. (*b*) Resect the posterior surface of the mastoid, then, further in, the posterior face of the petrosa; the first of these is thin, the second compact and resistant. This resection is done with a drill, or better with a gouge. The operative field is confined by the internal surface of the antrum, and includes the triangular region limited behind by the lateral sinus, in front by the facial sinus, and above by the roof of the antrum. The gouge is first used in a vertical direction from above downwards. The internal surface of the antrum is hollowed out; then the gouge enters the lateral and facial sinuses, working from the apex of the mastoid towards the middle cerebral fossa; the bony mass of the semicircular canals is chipped with strokes of the gouge in order to facilitate the following process. (*c*) A retrovestibular furrow being thus hollowed out, resection of the mass of the semicircular canals is achieved by placing the gouge this time horizontally, its back against the bend of the facial sinus, the cutting being towards the dura mater at the centre of the cerebellum. The gouge is worked backwards and forwards at first, and a little inwards and outwards, as though aiming for the torcular herophili. It is then pivoted about the bend of the facial sinus and directed towards the occipital foramen; finally, it is directed inwards and outwards definitely towards the basilar occipital process. The posterior surface of the petrosa is resected in proportion, and the dura mater uncovered little by little as far as the region of the endolymphatic sac.

2. The action of the gouge in the second process is facilitated by the following points of indication: (*a*) It pivots round the bend of the facial sinus, remaining always in a horizontal plane, passing by the fenestra ovalis and the loop of the horizontal semicircular canal. (*b*) In progressively resecting the mass of the semicircular canals two orifices are laid bare on the same level, corresponding to the opening of the loop of the vertical posterior canal. But the canal of the vestibular aqueduct passes along the loop of that canal; the opening of the latter then indicates that the resection of the semicircular mass is sufficient. (*c*) The cerebellar dura mater which covers the internal surface of the mastoid and of the petrosa is easily separated until the neighbourhood of the endolymphatic sac is reached, at which point it becomes very adherent. Resection of the posterior surface of the petrosa should then be carried out as far as the dura mater permits itself to hang loose. Where it joins the retropetrous periosteum resection must be stopped; that is the region of the endolymphatic sac. This last point of indication is the most important.

3. This technique is not dangerous; it requires to be executed in strips in order to avoid cracking the petrosa and tearing the dura mater continuously. When the conditions necessitating retrovestibular exploration are fulfilled it must be carried out in one operation complementary to petromastoidal evacuation. It is useless to intervene in two stages with an interval of 48 hours, for the entire process is extra-meningeal, and if properly conducted is not dangerous. Nor need the possible length of the operation be considered; aural intervention never induces operative shock.

Conclusion.

Resection of the bony retrolabyrinthine mass constitutes a means of reaching the anterior internal portion of the posterior cerebral fossa. It permits of access to—

(1) Extradural abscesses developing on the posterior surface of the petrosa between the lateral sinus and the internal auditory canal.

(2) Cerebellar abscesses very deeply situated; these are the most frequent type, and cannot be reached by any other means—either across the shell of the occipital bone or by the internal surface of the mastoid.

(3) Meningitis, localised or predominant, in the posterior cerebral fossa. By incising the dura mater near the endolymphatic sac the whole cerebral sub-arachnoid space may be drained. This incision, if kept open by means of a piece of gauze, sets up an abundant flow of cerebro-spinal fluid, resulting in marked diminution of headache and general symptoms. In a case of streptococcal meningitis under my own care this drainage clearly assisted the cure.

CEREBELLAR ABSCESSES OF AURAL ORIGIN.

BY DR. ANDRÉ MOULONGUET,
OTO-LARYNGOLOGIST TO THE PARIS HOSPITALS.

CEREBELLAR abscesses have a particular interest among the complications of suppurating otitis, as much because of their variable pathogeny as because of the difficulty of their diagnosis—the latter existing in spite of the recognition of symptoms established by modern semeiology of the cerebellum.

Etiology.

Frequency.—Rare. Bourgeois believed them to be as frequent as cerebral abscesses. At present it is believed that there is about 1 cerebellar abscess to 4 cerebral abscesses; thus Dench[1] has observed 4 cerebellar to 17 temposphenoidal, and Sydney Scott[2] 12 cerebellar to 42 cerebral. In a third of these cases the cerebellar abscesses were associated with other complications—extradural abscess, thrombo-phlebitis of sinuses, meningitis.

Age.—Exceptional before the age of 10 on account of the high position of the antrum; maximum frequency from 10 to 20 for abscesses following acute otitis, from 20 to 30 for those following chronic otitis.

Sex.—Three times more frequent in the male than in the female.

General causation.—Diabetes and tuberculosis play a disputed part in causation of abscesses.

Influence of traumatism and acute diseases.—Cerebellar abscesses have been attributed to the shock occasioned by gouging; this is a disputable point. They sometimes appear after an acute illness—e.g., measles, scarlet fever, mumps, typhoid.

Influence of the form of otitis.—The preceding otitis is nearly always chronic.

Pathogeny.

Consideration must be given to the following points:—

(*a*) *Routes of Infection in the Petrosa.*

1. *Venous route.*—Phlebitis of the venules connecting the middle ear with the sinus lateralis, or of the osseous venules, notably those of the petro-mastoidal canal.

2. *Cellular route.*—Under the influence of attrition by cholesteatoma or of retention of pus infection proceeds, and a process of osteitis destroys the osseous intercellular walls. The pus can also move along the subantral or peri-labyrinthine cells or the petro-mastoidal canal, and overstep at any point the cortex of the posterior wall of the petrosa.

3. *Labyrinthine route.*—This is the route of infection in nearly half the total number of cases: it can produce a fistula of the deep surface of the vestibulum engaged with the cerebellar surface, or, more often, a fistula of the posterior semicircular canal; lastly, much has been made

of the infective agency of the aqueduct of the vestibulum with resultant empyema of the endolymphatic sac. It is probable that a circumscribed extradural collection of pus situate on the posterior surface of the pyramid has often been taken for empyema of this sac. It is, however, none the less true that the importance of this deep retropetrous region is considerable in complications of the cerebellar surface; Vautrain, in his paper[3] suggested by Hautant, insists upon the necessity of his systematised exploration when a deep endocranial complication is suspected.

4. *Route of the internal auditory canal.*—A much rarer route. Infection can gain the canal by two routes—by the Fallopian aqueduct, which the pus traverses after breaking down the thin cortex of the central wall, or by the labyrinth, for the meningeal area is known to communicate with the labyrinthine area by the floor of the internal auditory canal. It must be noted that these different routes may combine to spread infection.

(*b*) *Spread of Infection Beyond the Petrosa.*

1. Infection by contiguity, on contact with the diseased bone; external pachymeningitis, then encephalitis and abscess.
2. Venous route; thrombo-phlebitis and abscess.
3. Arterial route; thrombus, then softening and abscess.
4. Lymphatic route; the pus does not permeate the lymphatic vessels, but follows the perivascular sheaths deriving from the subarachnoid cavity, which surround the lymphatic vessels and communicate with the connective tissue.

Pathological Anatomy.

The abscess is generally solitary, as large as a chestnut or walnut, often situated in the anterior part of the lateral lobes, with predilection for the right side. Classically, an abscess of phlebitic origin is antero-external, an abscess of labyrinthine origin antero-internal. More rarely the vermis is attacked. There is frequently a pachymeningitic lesion around the abscess. The thickness of cerebellar substance separating the abscess from the diseased bony lesion is generally minimal.

The contents of these abscesses vary in colour, odour, and consistency. Bacteriologically are found the usual organisms associated with suppuration, and sometimes anaerobes; sometimes, again, the pus is sterile.

The following varieties are to be distinguished:—

(*a*) Diffluent and ill-defined abscesses, the walls of which fade away with no sclerotic reaction; (*b*) limited abscesses, with a clearly circumscribed cavity whose wall is infiltrated with numerous polynuclear cells, and contains a few connective fibres on the side presented to the vessels; (*c*) encapsuled abscesses, with walls so well defined that the whole can be easily separated from the surrounding cerebral substance, like a real sac; this capsule consists chiefly of conjunctive tissue. The cerebral substance surrounding the abscess is more or less œdematous and hyperæmial.

Symptomatology.

The symptomatology is very varied; only an outline of it can be given. Classically four stages of a cerebellar abscess are described.

(*a*) *Initial stage.*—Where there has been a former otorrhœa with attacks of congestion of the diseased ear. New symptoms will soon appear which are not characteristic, and which give rise to more congestion about the ear, pain, and rise of temperature. Presently clearer signs awake suspicion of infection of the posterior cerebral fossa:—

(1) Injury of the labyrinth—either acute diffuse labyrinthitis with intense vertigo and nystagmus, first towards the diseased ear, then, after several days, towards the healthy ear; or chronic diffuse labyrinthitis, often following the former, and distinguishable by classical tests; (2) facial paralysis, supervening spontaneously during the course of otorrhœa; this sign must always give rise to anxiety, but its prognostic value is still more considerable when it is associated with labyrinthitis; (3) paralysis of the external motor oculi: rarer and of less prognostic value, disclosing an increase of cranial hypertension or a circumscribed leptomeningitis. Its association with other elements of Gradenigo's syndrome (trigeminal neuralgia) may indicate spread of infection towards the cellules of the apex of the petrosa (Baldenweck[4]).

(*b*) *Latent stage.*—A more or less considerable diminution of symptoms of the preceding stage is often observed, but careful general observation discloses morbid conditions the gravity of which will be apparent—viz., alteration in the patient's character, access of sadness and psychic depression; moreover the patient complains of a general feeling of discomfort. This latent stage sometimes appears after petro-mastoidal evacuation which induces an apparent improvement of more or less duration.

(*c*) *Manifest stage.*—Whether the precursory symptoms have already caused petro-mastoidal evacuation to be performed, or whether they have not appeared, multiple symptoms soon supervene in a very variable order of sequence; they may be divided into symptoms of suppuration, of hypertension, and of localisation.

1. *Suppuration.*—(*a*) Special attention has been paid to hyperthermia, and hypothermia attributed to the action of an abscess upon the centre of thermic regulation. As a rule the temperature curve is practically apyretic, and the small irregular thermic rises which are observed on the chart indicate meningeal inoculations. (*b*) Wasting is a capital symptom of cerebellar abscess—a symptom which Lermoyez "wished to see written in capital letters in classical treatises." In a few days muscular degeneration is complete. (*c*) Much less characteristic are the gastro-intestinal disturbances sometimes observed—anorexia, persistent constipation, crusted lips. Sometimes fits of shivering indicate the frequent onset of thrombo-phlebitis; labial herpes and local rise of temperature in the occipital region have also been noted.

2. *Diffuse intracranial hypertension.*—(*a*) *Headache* is the most frequent and earliest symptom of hypertension; it can be general throughout the head, particularly in children; oftener it is localised in the occipital region, with irradiations into the nucha, and sometimes also into the frontal region (Logan Turner[5]) or even on the side opposite to the abscess (Lombard). It is generally a dull, continuous, deep headache with a few paroxysmal crises of very short duration; patients compare it to the pressure of a vice or of a leaden bar inside the head; it is a depressing headache which does not compel the patient to cry out, but he may groan heavily at night. More rarely it is intense and intolerable, exaggerated by anything conducive to congestion of the head—cough, effort, reclining position—and then becomes a bursting sensation. It may be exaggerated by pressure on the eyeballs, but not by percussion or palpation of the occipital region; pain in the latter simply indicates a subdural abscess of the posterior cerebral fossa. (*b*) *Vomiting:* Cerebral, without effort; true regurgitation unconnected with alimentation; sometimes a type of uncontrollable vomiting (Courjon[6]), at other times simple nausea. (*c*) *Retarded pulse:* The pulse is of regular strength and normal amplitude but slackened; it only becomes quickened in the terminal period. (*d*) *Retarded respiration:* Parallel with the bradycardia; in the terminal phase it is accelerated and becomes superficial and irregular. (*e*) *Psychic disturbances:* At the outset mental inertia, cerebral torpor, liability to fatigue, diminution of psychic faculties. Later the patient sinks into stupidity, replying to questions slowly in a tired manner and with a low voice, and being indifferent to his surroundings; he remains for long hours motionless, with eyes half closed. Asthenia becomes complete, and muscular weakness is extreme. Much more rarely phenomena of cerebral excitation are observed; the patient becomes agitated, rises from his bed, and tears off his dressings; in exceptional cases there is melancholia with delirum, necessitating detention of the patient. (*f*) *Generalised convulsions and contractures:* Convulsions are chiefly observed in children; sometimes epileptic crises arise. Contractures are frequently localised in the muscles of the nucha. Stiffness of the nucha, with a drawing backwards of the head, is sometimes seen in cerebellar abscess due to compression of the spinal marrow by the abscess. (*g*) *Lesions of the optic disc and ocular disturbances:* Papillary lesions should always be systematically investigated when deep endocranial complication of otitis is suspected. Congestive vascular disturbances, venous dilatation of papillary stasis or of optic neuritis, may be observed. Absence of these lesions must not, however, occasion rejection of a diagnosis of cerebellar abscess, for they do not appear in a large number of cases (Lundberg,[7]; Dench; and two of the writer's own cases).

3. *Localisation.*—(*a*) Functional symptoms demanding the clinician's notice: (1) more or less intense vertigo, with several special characteristics; frequently a drawing sensation on the infected side. The vertigo is not increased by closing the eyes, nor by increase of pressure in the external auditory canal. It is increased by decubitus on the healthy side; so the patient lies with knees drawn up, on the side of the lesion. It is diminished in the horizontal position. (2) Disturbances of equilibration precede and follow vertiginous cerebellar disturbances. When the patient stands upright—which is not always possible—he moves his feet apart to widen his basis of support; body and head may show more or less distinct movements of oscillation. In Romberg's position it is observed that occlusion of the eyes does not increase disequilibrium; that the fall is usually towards the side of the lesion; that there is no constant connexion between the sensation of falling and the sensation of nystagmus. In walking the legs are widely separated,

and there are festination and titubation. The gait is that of a drunkard, advancing with small steps; the feet are drawn up and set down quickly; the oscillations of head and trunk increase. (3) Nystagmus in either direction—towards the healthy or the affected side; it is often accentuated when the eyes are turned towards the affected side. It tends to increase, not to diminish, as the condition develops. Lastly, it may be modified by excitation of the labyrinth (caloric or rotatory tests).

(*b*) Motor sensory and reflex disturbances: (1) Motor disturbances. In many cases paralysis of members of the affected side is observed; this constitutes a clear sign of cerebellar abscess (Damade and Boisserie, Lacroix,[8] Labouré[9]). More rarely double paralysis is observed, due to compression of the pyramidal nerve-tract at the level of the pons; in reality it no longer concerns in this case a focal system, but a symptom produced at a distance. De Stella[10] has reported a case of double paralysis (left side of face and right limbs) with a true cerebellar abscess. Conjugate deviation of head and eyes to the unaffected side has been observed, sometimes ptosis; disturbances of speech, the latter being scanned, with brusque emission of syllables separated by pauses; in exceptional cases there are trismus and difficulty in swallowing. (2) Sensory disturbances, generally absent. (3) Tendon reflexes are generally exaggerated on the affected side.

These different elements sometimes combine in syndromes, of which the most distinct are Brissaud's syndrome (cervico-occipital headache, strained attitudes—e.g., retraction of head, conjugate deviation of head and eyes, disequilibration), and Acland and Ballance's syndrome (exaggerated knee-jerk and sluggishness of lower limbs on affected side, conjugate deviation of head and eyes).

(*c*) Cerebellar tests: A new series of tests has been established in the light of modern knowledge resulting from Babinski's work on the physiology of the cerebellum: (1) Test of routine movements; the patient is told to touch the end of his nose, and his finger passes it. This excess is particularly marked when the movements are made with rapidity; it is not increased by closing of the eyes, and the movement retains its direction and intentional orientation. (2) Test of asynergy—the loss of ability to accomplish simultaneously the various movements which constitute an action. The patient lies down with arms crossed, and is told to sit up. Instead of keeping his legs still he flexes his thighs strongly upon the pelvis, and lifts his heels off the bed. (3) Test of adiadokokinesis—diminution of the faculty to execute movements in rapid succession. (4) Voltaic vertigo test. In the transverse bipolar test—i.e., setting the positive and negative poles symmetrically before the tragus—a rotation of the head is produced, with inclination backwards or always to the same side, whatever the direction of the current. (5) Indication test. This can be applied at different points of articulation—wrists, elbows—but is most easily carried out at the shoulder, by telling the patient to stretch his hands straight in front of him, with extended index fingers. Two kinds of phenomena may then be observed: 1. Spontaneous movements of reaction at the extremities; in cases hitherto observed the spontaneous movement has always been made outwards and from the affected side—i.e., with a left cerebellar abscess the right index finger remains immobile. 2. More often the spontaneous reactions are absent; and search must also be made, for presence of movements provoked by reaction, by physiological excitation of the vestibule. Normally, caloric excitation of the right ear with cold water results in displacement of the index finger towards the right (this in the position above described). With right cerebellar abscess the left index will travel well to the right, but the right index will remain immobile. If the right labyrinth is destroyed by suppuration the left labyrinth can be used; the opposite reaction will be obtained.

An important point is that the position of the articulation at the moment of the test does not influence the direction of the movement; whether the hand is in pronation or supination it is always carried in the same direction during the test.

Final stage.—The duration of the preceding period varies greatly, between a few weeks and three years; as the symptoms become aggravated, emaciation becomes extreme, and death supervenes either by increase of intracranial pressure and progressive coma or by bulbar compression and respiratory syncope (Alt[11]), or again by opening of the abscess into the meningeal cavities.

Evolution after Operation.

Soon after operation there is diminution of the general signs of intercranial hypertension. If coma was present it also disappears shortly, and there is regression of lesions of the fundus oculi; the pocket of the abscess fills up by disappearance of the walls and by granulation, and in from four to eight weeks can be healed. Large abscesses may heal without sequelæ. Unfortunately, improvement is often only temporary. Encephalitis is more or less rapidly developed, accompanied sometimes by hæmorrhage which hastens the fatal termination, sometimes by production of a cerebral hernia, which is often symptomatic of a second abscess arising in a diverticulum of the first abscess. Lastly, there is a possibility of recidivity, as in Poli's case,[12] where death occurred from a second cerebellar abscess four and a half years after cure of a first abscess.

Clinical Forms.

(*a*) Symptomatological forms: typhoid, deliriant and latent, in which last even very careful examination may elicit no symptom at all, and of which the diagnosis is only made at autopsy; the writer has recently observed such a case. (*b*) Evolved forms: acute or chronic. (*c*) Forms differentiated by age; in the aged a latent or torpid form. (*d*) Forms according to pathogenic organism; the pneumococcus gives chiefly encapsuled abscesses; (*e*) forms complicated by thrombo-phlebitis (Wildenberg[13]), by meningitis, or by cerebral abscess.

Positive Diagnosis.

It is obvious from the multiplicity of symptoms how complicated and difficult to interpret the clinical picture may become. The following four tests, of unequal value, are of assistance:—

1. *Lumbar puncture.*—This process gives information as to (*a*) the hypertension of the cerebro-spinal fluid, which is measured by Claude's manometer—a hypertension which is moreover inconstant; (*b*) the meningeal reaction around the cerebellar lesion; the latter is variable, giving now a normal liquid, now albumino-cytological dissociation, now a slight leucocyte reaction, now abundant polynuclear cells, whether altered or not. Borries[14] insists upon what he describes as the "benign picture of the cerebro-spinal fluid"; by a first puncture a cloudy liquid containing micro-organisms and polynuclear cells; in later punctures the polynucleosis is diminished, whilst the bacilli disappear. Borries attributes this to "second-hand" meningitis, betraying evolution of a cerebral or cerebellar abscess.

2. *Hæmatological examination.*—For Sebileau a leucocytosis of 9000 to 15,000, with 70 per cent. polynucleosis, would be the differential count of an encephalic abscess.

3. *Radiography.*—Radiography gives no information.

4. *Aspect of lesions during intervention.*—This constitutes one of the most useful signs; the gouge follows the lesions, which extend backwards towards the posterior cerebral fossa.

Study of all these symptoms admits the assembling of a group of facts favouring the existence of a cerebellar abscess; investigation by means of puncture is well advised; except in cases where the abscess communicates with the lesion of the ear it is the only formal means of diagnosis of a cerebellar abscess.

Differential Diagnosis.

We are not now considering those cases where otorrhœa has gone unrecognised owing to insufficient examination; in such cases the most fantastic errors can be made. Here it is understood that otorrhœa has been diagnosed.

1. Otorrhœa as a complication not of otitis, but of an intercurrent disease—typhoid, pneumonia, tuberculous meningitis, cerebral tubercle, cerebellar hæmorrhage, intracerebellar cysticercus, uræmia, or hysteria. Moure[15] has recently reported cases where in the course of otitis media with suppuration symptoms such as nystagmus, torpor, &c., gave rise to the belief that a cerebellar abscess was present; in reality it arose from gingival syphilis which was cured by treatment.

2. Otorrhœa as a complication of otitis:—

(*a*) As soon as coma appears the presence of auricular suppuration suggests an encephalic complication; puncture of the cerebrum is then resorted to; if no result is gained it is followed by puncture of the cerebellum; (*b*) if the vestibulo-cerebellar syndrome is absent the following possibilities should be eliminated: (1) hysteria, persistence of pain after intervention in neuropathic cases (Bourgeois); (2) otitic hydrocephalus, a sort of œdema of the meninges and of the cerebrum around the affected petrosa, well described by Passot.[16] These phenomena have often wrongly suggested cerebellar abscesses, and futile punctures of the cerebellum have been carried out (Hunter Tod,[17]). Rapid improvement after drainage generally permits the diagnosis; it can sometimes be suspected when lumbar puncture has brought

about immediate and complete cessation of the symptoms. (3) Otitic meningitis: the diagnosis is the more difficult in that the two affections can exist side by side, and, moreover, there are forms of localised meningitis of the posterior cerebral fossa with a symptomatology very similar to that of cerebellar abscess. Study of the thermic curve, lumbar puncture, and the cerebellar tests assist in making the diagnosis. (4) Extradural abscess can present symptoms very like those of the cerebellar form. Baldenweck insists upon pain on pressure in the occipital region, characteristic of extra-dural abscess. (5) Phlebitis of the sinuses. The spiky temperature curve and the presence of intense shivering and of pyohæmic complications are the soundest bases for diagnosis; but the two diseases can co-exist. (6) Cerebral abscess. Diagnosis often very difficult. It must be remembered that nystagmus is frequent in cerebral abscess. Aphasia is a marked sign of the latter; examination of the lesions in the course of evacuation is most often the best diagnostic indication.

3. There still remains the vestibulo-cerebellar syndrome. Acute labyrinthitis will be present; diagnosis will be difficult, as the two diseases can co-exist or succeed one another. Careful study of the symptoms common to both reveals sufficiently definite differences (Lamois,[18] de Stella [19]).

(*a*) Acute labyrinthitic nystagmus presents a regular evolution. For two or three years it strikes towards the affected ear; at the end of that time caloric excitation of the vestibulum shows it to be more responsive. Then it changes direction, attacking the sound side, the vestibulum becoming unresponsive to hot or cold water. Cerebellar abscess must be considered whenever there is irregularity in evolution of nystagmus and in excitability of the labyrinth—e.g., in the following cases: (1) Nystagmus towards the affected ear; 48 hours later, change of direction towards the sound ear; then persisting without modification. (2) Nystagmus for several days towards the sound ear again turning to the affected ear, the vestibulum on the affected side being unresponsive. (*b*) Disturbances of equilibration. The body falls in the direction opposite to that of the nystagmus, and is modified by the situation of the head. In a case of right labyrinthitis with nystagmus towards the left, the patient tends to fall to the right; but if told to turn his head to the right he will fall backwards. This is important, since the cerebellar disturbance is more of equilibration than vertiginous, whilst labyrinthitis is more vertiginous than of disequilibration, and the disequilibration is increased when the eyes are closed. (*c*) In labyrinthitis vomiting does not last longer than two or three days. (*d*) Headache is unknown in labyrinthitis. (*e*) Galvanic test; the bilateral unipolar test, carried out by placing the negative electrode on the nucha and two positive electrodes in front of the ears, induces a fall to the side of the sound labyrinth, whilst the patient with cerebellar abscess, whose intact labyrinths are equally galvanised, does not fall. (*f*) Lumbar puncture shows intact cerebro-spinal fluid in labyrinthitis.

Treatment.

Treatment is purely surgical, and consists of opening the abscess. With regard to anæsthesia, surgeons who during the war observed the danger of chloroform in trephining for wounds of the head became accustomed to using ether; but to avoid the danger of intercranial hypertension induced by ether it is well to precede the operation with a lumbar puncture.

Method of approach.—Authorities are divided as to the best method. (*a*) Some follow the lesions and approach the cerebellum by the mastoidal route, breaking down the posterior wall of the petrosa and advancing in front of the lateral sinus, or through it when it is thrombosed (Calamida [21]). (*b*) Others approach the abscess directly by the retro-sinuous occipital route, passing through healthy tissue (Aboulker,[22] Pierce,[23] Curtillet and Aboulker [24]). The chief advantage of this method lies in the harmlessness of futile punctures of the cerebellum made across healthy uninfected tissues. Where a cerebellar abscess is suspected an exploratory cerebellar puncture can thus be made. Lastly, by this method it is easier to supervise the cicatrisation of a cerebellar abscess once the latter has been opened. Opponents of this method say that to open an abscess by crossing a healthy meninx is to risk provocation of a generalised meningitis. I have been able to demonstrate that this fear is unfounded,[25] and that the formation of a "cerebral plug" is sufficient to isolate the meningeal space from the cavity of the abscess. (*c*) Combined method—mastoidal with an occipital counter-opening—successfully employed by Luis Suñe y Medan.[26]

Puncture of the cerebellum.—The dura mater has been largely laid bare; its characteristics must be studied. In some cases a small fistula, from which escape drops of pus renewed after cleansing, indicates the presence of an abscess; in other cases delicate palpation discloses an abnormal resistance, a characteristic thickness. These are the only certain signs of an abscess. It is better not to take into account the cerebral pulsation, since some authors consider an increase in the rate to be characteristic of an abscess, whilst others say the same of a diminution. In exceptional cases there is a cup-shaped depression in the dura mater, as though the latter has been drawn in by the abscess. Soon after the dura mater has been incised the cerebellum prolapses; the latter is punctured, either with Horsley's pus-finder or with aural forceps, the blades of which are parted, or with a hollow sound; the majority of writers have abandoned Preysing's bistoury and Wicart's trocar. Once the pus is found the forceps are thrust into the cavity of the abscess and withdrawn with the blades parted. Several writers advise digital exploration of the abscess. Waggett [27] goes so far as to advocate digital search for the abscess.

Dressing and drainage of the abscess.—All writers agree in rejecting drainage by rubber tubing, on which the beating of the cerebral pulse tends to destroy the cerebellar parenchyma. Gradenigo [28] employs a special encephaloscope. The floor of the abscess can also be touched with various topicæ; most writers have abandoned lavage of the abscess. The school of Saint Antoine, with Mons. Lermoyez, advocate evacuation of the abscess, twice daily, with Péan's forceps or with a long speculum, followed by flat dressing, without the introduction of gauze or drain of any sort.

Vaccinotherapy.—As a result of the work of West auto-vaccinotherapy has been practised by Stoddart Barr.[29] I am at present studying the action of auto-vaccines in nutritive media with cerebral substance added. This method, intended to conserve the histological affinity of micro-organisms for cerebral substances, has been successful when applied to treatment of encephalitis following cerebral wounds caused by projectiles.[30]

Prognosis.

The prognosis is "fatal" when the abscess is left to evolve naturally. The most favourable statistics of operative intervention give about 25 per cent. of cures. West [31] is of the opinion that the prognosis of abscesses following pyo-labyrinthitis is worse than that of those following thrombo-phlebitis of the sinus.

Bibliography.—1. Dench: 9th International Congress of Otology, Boston, August, 1912. 2. Sydney Scott: Royal Society of Medicine, London, Section of Otology, Jan. 19th, 1912. 3. Vautrain: Abcès retrolabyrinthique, Thèse de Paris, 1919. 4. Baldenweck: Etude anatomique et clinique sur les relations de l'oreille moyenne avec la pointe du rocher, Thèse de Paris, 1908. 5. Logan Turner: Royal Society of Medicine, London, Section of Otology, Jan. 19th, 1912. 6. Courjon: Diagnostic differentiel entre l'abcès cérébelleux et la pyolabyrinthite, Thèse de Lyon, 1911. 7. Lundberg: Acta otolaryngologica, vol. ii., p. 362. 8. Damade et Boisserie Lacroix: Gazette Hebdomadaire des Sciences Médicales de Bordeaux, Dec. 7th, 1919. 9. Labouré: Un cas d'abcès du cervelet, Annales des Maladies de l'Oreille et du Larynx, 1911, ii., p. 990. 10. de Stella: Abcès du cerveau et du cervelet, Société Belge d'Oto-Rhino-Laryngologie, 21st Annual Congress, held at Ghent, July 15th, 1911. 11. Alt: Zeitschrift f. Ohrenheilk., lvii., Nos. 2 and 3. 12. Poli: Abcès cérébelleux otitique guéri ayant recidivé 4½ ans après la première intervention, 14th Congress of the Italian Oto-Rhino-Laryngological Society. 13. Van den Wildenberg (Antwerp): Société Belge d'Oto-Rhino-laryngo., 20th Annual Congress, June 11th, 1910. 14. Borries (Copenhagen): Contribution à l'étude du "Tableau clinique bénin" du liquide céphalorachidien dans les complications otitiques endocraniennes, Acta otolaryngologica, vol. i., p. 86. 15. Moure: Complications endocraniennes au cours des suppurations de l'oreille et syphilis, Académie de Médecine, May 11th, 1920. 16. Passot: Méningite et états méningés aseptiques, Thèse de Paris, 1913. 17. Hunter Tod: Royal Society of Medicine, London, Section of Otology, May 7th, 1910. 18. Lannois: Diagnostic de l'abcès cérébelleux et de la pyolabyrinthite, Annales des Mal. de l'Oreille, 1911, ii., p. 1113. 19. de Stella: Diagnostic differentiel entre pyolabyrinthite et abcès cérébelleux, 21st Annual Congress of the Société Belge d'Oto-Rhino-L., Ghent, July 15th, 1911. 20. Hautant: Indications et technique de la trépanation des labyrinthe, Bulletins et Mémoirs de la Société Française d'Oto-Rhino-Laryngologie, 1913 Congress, part i. 21. Calamida: Sur un cas d'abcès cérébelleux otitique opéré avec bas résultat, Archivio Italiano di Otologia, 1913, xxiv., p. 4. 22. H. Aboulker: Modifications au traitement opératoire des complications intracrâniennes des otites, Revue de Laryngologie, d'Otologie, et de Rhinologie, March 15th, 1919. 23. Pierce: Abcès du cervelet d'origine otitique, guérison opératoire, 42nd Annual Reunion of the American Society of Otology, Boston, June, 1909. 24. Curtillet et Aboulker: Abcès du cervelet diagnostiqué, opéré et guéri depuis 2 ans, Annales des Maladies de l'Oreille et du Larynx, 1912, ii., p. 490. 25. André Moulonguet: Les abcès du cerveau d'origine otitique, Th. de Paris, 1914, p. 116. 26. Luis Suñé y Médan: Un cas d'abcès cérébelleux d'origine otitique opéré avec succès, Revista Española de Laryngologia, Otologia, et Rinologia, 1916, vii., p. 9. 27. Waggett: Royal Society of Medicine, London, Section of Otology, Jan. 19th, 1912. 28. Gradenigo: Sur l'emploi de l'encéphaloscope dans le traitement post-opératoire des abcès encéphaliques otitiques, Archivio Italiano di Otologia, vol. xxvii., p. 3. 29. J. Stoddart Barr: Cerebellar Abscess, Scottish Society of Otology and Laryngology, May 20th, 1911; THE LANCET, 1911, i., 1644. 30. André Moulonguet: L'emploi d'un autovaccin dans le traitement des plaies cérébrales, Paris Médical, July 13th, 1918. 31. West: Pathological Anatomy and Treatment of Cerebral Abscess, Royal Society of Medicine, London, Section of Otology, Jan. 19th, 1912.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 5, 1921.

The Health of the Teacher.

Mr. RALPH WAGER, of the Department of Biology at the Northern Illinois State Normal School, has been making an inquiry into the health of school teachers and training college students, and he has come to the conclusion that enough is not done to safeguard the health of the teacher either in the training college period or in later employment. His deductions are interesting, although the smallness of the numbers dealt with does not allow us to draw any wide deductions from them. He finds that of 257 students aged 18 to 21 a large percentage were suffering from remediable defects. Forty per cent. had carious teeth, 28 per cent. defective vision, 8 per cent. ear trouble, and 2 per cent. were suffering from abnormal lung conditions. Attention is drawn to the lowness of this last figure. Not long ago, Dr. WILLIAM OLDWRIGHT, Professor of Hygiene in Toronto University, found that out of 1000 deaths of female teachers from all causes 396 were due to pulmonary phthisis, the mortality-rate being about that of printers (398), more of whom succumb to this disease than do any other class of worker, and higher than that of stone-cutters and saloon-keepers.

In England, the teaching class is very much more carefully selected than in America. The Board of Education insists on an examination for medical fitness before entering the training college. Trainees undergo a medical examination each year of their college life, and, finally, a thorough examination is made before they are employed in State-aided schools. All remediable defects are rectified, over-strain is noted, and consequently there is a thorough weeding out of the unfit. From the Registrar-General's reports the mortality of the male school teacher under 45 years of age appears to be below that for all males in selected healthy districts, while above 45 years the rates occasionally exceed that standard. On going more closely into the subject we find that although the comparative mortality from phthisis of occupied and retired male school teachers generally is 113 per 1000 dead—double that of the clerical profession, and considerably below that of occupied and retired males generally, which is 186 per 1000 dead—it is very high considering that these lives are selected on a health standard. Denmark's example in retiring on a liberal pension teachers who have contracted tuberculosis, or giving them long leave of absence on part pay, might well be followed. Of course, a low mortality-rate is quite compatible with a high morbidity-rate, and it is significant that the maximum mortality-rate for teachers is reached 10 to 15 years later than for the general population, a fact which along with Mr. WAGER'S figures would seem to show that the disease is an outcome of conditions of work. Dr. HANS MEIRHOFER found that in Zurich during the years 1912–14 there were 592 teachers' notifications of illness. Of these, 177 were due to respiratory disease (chiefly laryngeal or bronchial), 107 to nervous troubles, 52 to heart weakness, 53 to infectious disease, 78 to digestive troubles, 60 to diseases affecting bones, joints, and muscles; while under the heading "various," which included anæmia and general debility, were classified 45. The proportion of sick women was more than twice that of men. The large preponderance of nervous and respiratory affections will occasion little surprise when we remember the constant strain to which the elementary school teacher is subjected. She is shut up all day with a class of possibly 60 children. Her point of attention is constantly being diverted, never allowing of concentration for any length of time. Indeed, she may eventually lose this power altogether, and she often becomes fussy, over-anxious, and nervous. She rarely sits; for the greater part of her school day she is standing, breathing an atmosphere of stagnant warm air laden with particles of chalk, fibres of clothing, and exudations from 60 children. The average school teacher dislikes the cool atmosphere of a well-ventilated room, and more often than not in the more modern buildings one finds the means of cross ventilation tightly closed.

The remedy lies not only in a closer adherence to the hygiene syllabus of the training colleges (in England now it is a comprehensive one) and in the reduction of the numbers in classes, but also in the growth of the open-air type of school, which is cheaper to build and easier to alter, and better for teacher and taught than the old permanent variety. Shop assistants in England, by a wise law, are encouraged to sit down to their work when possible. The teacher is directed in the training college to teach in the standing position. It may be that 60 children cannot be controlled otherwise, but it is trying and, among other things, conducive to flat-foot, so common in this profession. An unhealthy teacher is a distinct monetary loss to any education authority. The personality of the teacher is often of more educational value to the developing mind of a child than all the formulæ that are taught, and an effective personality is not found in an over-tired and over-strained frame. Here in England we differ from America in getting teaching material certified physically sound, and for the sake of those to be taught, if for nothing else, we ought to keep our stock of material in good condition. We must lessen the over-pressure and examination evil in secondary schools and training colleges, and we must take every means to prevent over-strain and fatigue by insisting on the ordinary laws of general hygiene being practised as well as preached. For instance, how many cases of over-strain and breakdown are due directly or indirectly to ignorance of voice hygiene? Comparatively little attention is paid to this subject, which ought to be a compulsory one in every training college. It is a curious fact that although the teachers' voice is more or less in constant use, and is the principal medium for the practice of their profession, few teachers know how to preserve the voice by proper use. Indeed, few have any knowledge that there are right ways and wrong ways of using it, and the majority of teachers are ignorant of the fact that expenditure of effort and energy can be considerably curtailed by pitching the voice differently for different purposes. The late Dr. E. S. YONGE examined the throats of 100 women teachers in Manchester, and found 70 per cent. with pathological change; 31 of these 70 had definite lesions of the vocal cords. These pathological throat conditions, produced

most of them by ignorance, result very often in periodic loss of voice and always in fatigue, which reacts upon the children individually.

What of teaching from the teacher's point of view? That teaching as a profession is not attractive can be gathered from the falling-off in the numbers of men and women who go in for it. Other openings are developing for both men and women, and teaching is going by the wall. The reasons are not far to seek. Apart from conditions of pay, the social life of the teacher is limited. Most of the life is spent among children, and entertaining though interchange of ideas with children may be, it is not very stimulating intellectually; consequently mental atrophy is apt to set in. Teachers, too, women especially, are apt to suffer from over-strain—emotional over-strain rather than intellectual. Apart from all this, the outlook is depressing. If a woman teacher over 40, when her powers ought to be at their maximum and her value in any other calling would be recognised, happens to fall ill, or for any other reason decides to give up work, she will find when she desires to resume again that, apart from reasons connected with superannuation allowances, her chances with appointment committees are poor as against that of the young woman between 20 and 30 not long out of college. There is something wrong in the system when a life of monotonous drudgery under unhygienic conditions is also poorly rewarded and in precarious circumstances. Although conditions here are better on the whole than in America, much productive energy might be spent in both countries in alleviating the teacher's lot, and in making the teaching profession a more attractive one all round.

The Pandemic of Influenza, 1918-1919.[1]

A REPORT on the pandemic of influenza, 1918–1919, has been issued by the Ministry of Health, being No. 4 of the valuable series coming from the Ministry, and dealing generally with public health and medical subjects. The price of the Report is high, but the book is a large closely printed volume, accompanied by the illustrations, maps, and diagrams necessary to its comprehension, while its message is timely as well as of great general value. The responsible authors are Dr. M. B. ARNOLD, Dr. THOMAS CARNWARTH, Dr. S. M. COPEMAN, F.R.S., Dr. BRUCE LOW, Dr. S. P. JAMES, Dr. MAJOR GREENWOOD, and Dr. J. R. HUTCHINSON, attached to the Ministry, aided from without the bureau by, among others, Sir FREDERICK ANDREWES, F.R.S. (professor of pathology in the University of London), Dr. JOHN BROWNLEE (director of statistics to the Medical Research Council), Dr. F. S. CARSON, Dr. HERBERT FRENCH (physician to Guy's Hospital), and Dr. G. W. N. JOSEPH, Dr. A. J. LAIRD, Dr. MORLEY MATHIESON, and Dr. JAMES NIVEN, respectively medical officers of health for Warrington, Cambridge, South Shields, and Manchester. The Report is prefaced with a general survey of the epidemic by Sir GEORGE NEWMAN, chief medical officer to the Ministry, and it is the first intensive study of the scourge that swept across half the world some two years and more ago, claiming a larger total of victims than fell during the whole of the war.

[1] Report on the Pandemic of Influenza, 1918-1919 (Reports on Public Health and Medical Subjects, No. 4). H.M. Stationery Office. Pp. 576. Price 10s. net.

The issue of the Report has been called timely, and this leads us to hope that all who are officially concerned in erecting and maintaining our defences against epidemic disease, will study the terrible story of 1918–1919 in the light of future and organised activities that may be demanded of them. The American who reminded his constituents that "if our foresight was as good as our backsight we should be wiser by a d—n sight" was not belittling, but recommending the study of collated experience, and in the matter of influenza such study may save a vast amount of mortality and misery. True, the deaths from influenza have not exceeded the normal for the last two years, but we must not—neither the public nor the medical profession—build too high on the fact. The disease is now known to recur in successive waves, and we have to face the serious question whether this country is prepared with the knowledge and the weapons whereby to contest a return of the epidemic. For undoubtedly circumstances favour the return of influenza. The compilers of the Report state their view of the matter impressively, if a little obscurely, when they say:—

> "The conclusion to which we are led is that the generation of a great pestilence such as influenza or pneumonic plague is dependent upon disturbance of social order involving for absolutely large numbers of human beings the endurance of conditions of insalubrity which afford for invading parasites a suitable field of modification. ..... No impartial spectator can doubt that at the present time, and almost certainly for a generation to come, there will exist in many nations and over wide tracts of country precisely the type of misery which we suspect to be the appropriate forcing house of a virulent and dispersive germ."

We believe this warning to be warranted by facts, and welcome from the Ministry of Health a Report which, while resuming the past, gives wise counsel for the future. In the light of this Report one of the first tasks for the International Health Bureau will be to track down the epidemic focus of influenza and arrest the disease at its source. Influenza breeding can no longer be tolerated in a world which boasts of a collective health conscience.

Ill-judged Economy.

THE rise and progress of the science of industrial medicine, its importance to our great working centres, its influence upon human endurance, efficiency, health, and contentment, and especially the invaluable work being conducted by the Industrial Fatigue Research Board, have steadily been placed before our readers. We recognised the appointment of the Board, with a mission to extend and pursue investigations which had been successfully set on foot during the war, as a piece of wise statesmanship. The Board has overcome the initial difficulties, which have been considerable, in getting together a staff of expert investigators and in educating new workers. Such reports as have already been issued have been eagerly welcomed, not only in this country, where employers and employees alike are wishful to reorganise conditions of labour on a scientific basis, but also in the United States, France, Canada, Spain, and Italy, where steps are being taken, or being contemplated, to follow our lead. As in the case of the dye industry, our men of science are ahead of the world; are we again going to leave the harvest to others to reap?

We understand that a decision has been given to cut short the work of the Board at a time when every effort must be put forth to make industry as effective and as healthy as possible. Nor is this all. The Board, originally appointed at the desire of the Home Office, owes official allegiance to the Medical Research Council, and when that Council presented the budget for the coming financial year, the allocation for the Industrial Fatigue Research Board was unconditionally refused by the Treasury. The Board, after balancing the present imperative need for economy with the national importance of the work entrusted to its care, had reduced its requisition to £18,000, but its modesty met with no reward. The decision of the Treasury appears to have been given without investigation of the work of the Board, or any consultation with its members, without any reference to employers and employees, or to the Home Office, whose representatives sit on the Board, or to the Ministry of Health who are naturally interested in medical research and are represented on the Board, or to the Ministry of Labour, who are concerned with industrial contentment and efficiency, and are also represented on the Board. The Chairman of the Industrial Fatigue Research Board is Professor C. S. SHERRINGTON, President of the Royal Society, and among its members are such well-known men in the industrial world as Mr. W. L. HICHENS and Mr. KENNETH LEE, and such scientists as Sir JOSEPH PETAVEL, Professor E. L. COLLIS, Dr. C. S. MYERS, and Professor WINIFRED CULLIS, all of whom give voluntary and unstinted service. We may fairly inquire whether the Treasury is the authority to decide the value and usefulness of any form of medical research, and to do so without inquiry or hesitation. We believe that reduction in the estimate put forward was not asked for, only a curt refusal for the whole sum was sent to the Medical Research Council.

Economy is the plea for this action. It is the sort of economy which makes practical men despair. National wealth depends upon human efficiency in industry. The study of human activity and of the effects of fatigue has in the past been sadly neglected, and the Industrial Fatigue Research Board was removing this reproach. It has, among other things, already pointed out how ventilation may increase output, how rest-pauses scientifically used may improve productivity and increase earnings, how shortened hours may be hygienically and economically beneficial, how industrial accidents, sickness, and activity are influenced by relatively small alterations in temperature, and how intimately certain processes depend on human efficiency. In a little over two years the Board has issued reports relating to the manufacture of shells, the silk industry, foundries, the manufacture of tinplates, cotton spinning and weaving, the boot and shoe trade, and the manufacture of iron and steel, which latter, the *Scotsman* states, "presents a picture of the whole intelligence in the industry engaged in the engrossing pursuit of metallurgical problems to the almost complete exclusion of the factor of human health." We find ourselves in complete agreement with our contemporary that dismissal of the Industrial Fatigue Research Board "is a form of economy which can only, and probably within a short time, involve industry in a good deal of avoidable loss." Then taxation will yield less, while its burden will press heavier.

Annotations.

"Ne quid nimis."

TRINITY COLLEGE, DUBLIN.

THE Report of the Royal Commission appointed last March to investigate the claim of Trinity College, Dublin, to financial aid from the State was published recently. It is strongly in favour of such aid being given, and recommends a non-recurrent immediate grant of £113,000 and an annual subsidy of £49,000. At present the College receives no Government grant, and apart even from its heavy losses during the war, it has insufficient resources to develop in proportion with its needs. Among the most pressing necessities are additional laboratories for pathology and chemistry. In addition to supporting the demands of the College for money, the Commission makes a number of far-reaching suggestions concerning the organisation of the teaching staff. Up to the present not only has the great part of the teaching in Arts been in the hands of the Fellows, but they held the preponderating influence in the life and affairs of the College, the Professors being ancillary. The suggestions of the Royal Commission appear to contemplate a reversal of this position. The Professors will become the predominating power and the Fellows will have a secondary position. This is made clear by the proposals as regards stipends. A whole-time professor is to receive a salary of £1000 or, if he is head of a department, £1300. The junior Fellows, on the other hand, are to be content with stipends beginning at £440 a year and reaching a maximum of £690. They have, naturally, pointed out "that these salaries are quite insufficient in view of the increased cost of living," and they demand that "if a State grant is obtained from the College ..... a further increase in the salaries of Fellows should be made a charge on the grant," but their protest and demand received no support from the Commission. With such inadequate salaries it is bound to be increasingly difficult to attract suitable candidates to the Fellowship of the College. The Commission makes various suggestions concerning the medical and other schools as regards more adequate remuneration for assistants in the faculties. It is proposed also to get rid of the anomaly of the present position of the chair of Institutes of Medicine. The professor of that subject is appointed by the Royal College of Physicians or the foundation of Sir Patrick Dun, but he is, for all practical purposes, a whole-time officer of Trinity College. The Commission proposes that he should, in fact, become so. The Commission makes a not unnecessary recommendation that the authorities of the College should improve the present sanitary arrangements of the College. Only those who have been ill in College rooms, or those who have attended patients there, can realise how trying are the present arrangements.

ANTHRAX FROM SHAVING-BRUSHES.

THE Ministry of Health has called attention to the recent occurrence in this country of cases of anthrax, some of which have terminated fatally. Infection has once more been traced to shaving-brushes; in spite of the steps taken to prevent the distribution of Japanese brushes imported before the prohibition order took effect (i.e., Feb. 9th, 1920), there is reason to believe that large numbers of these brushes still remain in the hands of retailers. It is suggested that medical officers of health should communicate with all retail chemists and other dealers in shaving-brushes in their districts, and warn them of the danger of distributing any brushes of Japanese manufacture which they may have in stock. Should the retail dealer be unwilling to have the brushes destroyed, they should be securely wrapped up and returned to the wholesale dealer, together with an explanation. At the beginning of last year a method of partial disinfection of shaving-brushes before use was indi-

cated[1] for the protection of the public, but a method stated to be more reliable is now recommended in a circular issued by the Ministry of Health. The brush should be: (*a*) thoroughly washed with soap and warm water containing a little washing soda and then allowed to stand for half an hour in warm water containing a little soda; (*b*) placed in a warm solution of formaldehyde (1 part of 40 per cent. formalin and 16 parts of water—a 2½ per cent. solution of formaldehyde) for half an hour; (*c*) allowed to dry. It is, however, pointed out that complete sterilisation of brushes is impracticable; the method mentioned above frees the exposed part of the hair from infection, but does not affect spores embedded in the handle of the brush. The following figures have been supplied by the Medical Inspector of Factories with regard to the results of various forms of treatment in 800 cases of cutaneous anthrax (excluding the erysipelatous form) in Great Britain:—

Treatment.	Cases.	Deaths.	Mortality per cent.
Serum only	200	8	4·0
Excision only	397	44	11·1
Excision and serum	174	25	14·4
No special treatment	29	14	48·3
Total	800	91	11·4

It is also stated that in general the best treatment for a case of anthrax is physiological rest of the part affected, combined with intravenous injection of anti-anthrax serum; and that there is always difficulty in estimating the efficacy of different methods of treatment of a malady such as anthrax, which is capable of undergoing spontaneous cure.

THE VENTILATION OF SUBMARINES.

THIS subject has been little discussed in the medical press, which makes more welcome the paper by Lieutenant-Colonel (Surgeon-Commander) R. Marantonio, of the Italian Navy, in *Annali di Medicina Navale* (1920, ii., 467). A small submarine, 100 ft. long and 10 ft. broad, displacing when fully submerged 200 tons, has a crew of 12, and takes down with her some 200 cubic feet of respirable air per man. This air is deteriorated not only by respiration, but by gases given off by the accumulators; as, however, not all parts of the boat are equally occupied, some parts retain a better atmosphere than others, and an equalising system of 4-inch trunks is installed to collect on the starboard side the used air by the help of a Sirocco fan, and discharge it, mixed, on the port side. This circulation does nothing to improve the air supplied, though the motion imparted makes it pleasant and cooling, but the air can, if preferred, be drawn through soda-lime granules, which remove carbonic acid and water vapour. Also, two steel cylinders of oxygen are carried as a reserve. When the boat comes to the surface, where its stay may be short, it is important at once to renew the air within it. That is not invariably easy, as the hatches are small and near the water, still it is managed by help of the Sirocco fan and the previously mentioned ventilation system. The valves on the trunks are set differently, air is sucked out of the ends of the boat, out of the latrine, out of the accumulators, and is driven overboard through an 8-inch trunk abaft the conning-tower, replacement occurring by drift through the hatches, or, if these are closed, through a second 8-inch trunk before the conning-tower. These trunks have their upper ends 8 ft. above the water and are closed by shutters and screws. In larger submarines (150 ft. long, 15 ft. wide, and displacing 474 tons submerged) ventilation is differently arranged and air purifiers are not used. The gases from the accumulators are the chief problem, and the exhaust air from the crew spaces is taken out through the accumulator chambers and pumped overboard to the nearer escape, of which there are two, one forward, one aft. When the oil-motors are running, the boat being on the surface, the required air is taken from the crew spaces, while the used air is discharged overboard, but there are always leakages, and to remove that air ("smoke") a ventilator is fitted at the after end of the engine-room. But this ventilator has to be at once closed if the boat begins to submerge, so that as she submerges the engine-room always wants a blow through. When submerging the openings are all firmly sealed and water is run into the ballast tanks, displacing the air there contained, air that has always a very unpleasant smell, and the barometric pressure increases to 31 in. From all which we learn there are unpleasantnesses in the submarine service as well as risks, and the call for equanimity is as clear as that for courage.

[1] THE LANCET, 1920, i., 108.

CANCER OF THE UTERUS IN YOUNG WOMEN.

ACCORDING to Dr. Gordon Gibson,[1] of the Long Island College Hospital, who records six cases in women aged from 25–28, cancer of the cervix under 30 is not so rare as is generally supposed. In 500 cases of cancer of the uterus recently reported by Petersen 23, or 4·8 per cent., occurred under 30. Dr. Gibson's percentage is higher, being 6 in 61 cases, or 9·9 per cent. It is noteworthy that 4 of his cases had married early—namely, at 19, 17, 16, and 17 respectively. Of the 5 who had borne children 4 developed the cancer comparatively soon after pregnancy—namely, 16 months, 3½ years, 4 years, and 5 months. In young women the growth, which is usually an epithelioma, is much more rapid than in older women, and it is only when it is seen in the first three months that a radical operation can be done. The extension is particularly rapid when the parametrium becomes involved and death takes place comparatively soon. In only three of Dr. Gibson's cases was the radical operation carried out, and in them the disease had given rise to symptoms for a comparatively short time—namely, three months, two months, and two months respectively. In the others, in whom the symptoms had been present from four to six months, only palliative measures, such as curetting and cauterisation, were possible, and all of them died shortly afterwards.

THE FORM OF MERCURY FOR INUNCTION.

IN the *British Journal of Dermatology and Syphilis* for December, 1920, there appears an interesting article on the absorption and elimination of mercury by Dr. Svend Lomholt, head of the Venereal Clinic of the Royal Danish Marine Hospital, Copenhagen. The author has made a careful analysis of the fæces and urine of patients under various forms of mercurial treatment, and daily charts of the rapidity of elimination of mercury have thus been obtained. Before dealing with the therapeutic conclusions arising from this work, Dr. Lomholt discusses the question whether mercury in the infected body acts directly upon the spirochætes, or indirectly by stimulating the bactericidal forces of the body. Eighteen examinations of blood from patients under full mercurial treatment or severely intoxicated with this metal have shown that the average content of mercury amounts only to 1–2 mg. per litre, and never exceeds 3 mg. The concentration is so feeble that it appears improbable that a direct bactericidal effect takes place. This conclusion is reinforced by experiments conducted in company with Dr. A. Kissmeyer, in which it was found that a colony of spirochætes grew well in horse serum containing 5–10 mg. of $HgCl_2$ per litre. Dr. Lomholt concludes with a review of the various methods of administration of mercury considered from the point of view of absorption and elimination. He is of opinion that the salicylate of mercury is not absolutely reliable, on the one hand, because its chemical composition makes it decomposable only with difficulty, and, on the other hand, because of its extremely rapid elimination. Metallic mercury has

[1] The American Journal of Obstetrics and Gynæcology, December, 1920.

a very serious drawback in its slow and sometimes very irregular absorption, which may in some cases produce severe intoxication, and in other cases a feeble therapeutic effect. Treatment by inunctions possesses the advantage of being reliable, effective, and painless. To obtain a rapid saturation of the body, the author suggests that it may be of advantage to give at the beginning of the inunction treatment an injection of the soluble salt of mercury, or simply a dose of 0·5 g. of calomel per os. The daily dose of ointment to be used should vary from 3 to 5 g. according to the size, &c., of the patient. The injection of soluble compounds of mercury is not employed very much nowadays owing to the necessity of daily treatment, but it is specially indicated in idiosyncrasia mercurialis, where a tendency to "hydrargyria cutanea" prevents the use of inunctions.

LONDON PANEL PRACTICE.

THERE are just over 1½ million insured persons on the lists of insurance practitioners in London. Of these 4060, or 1 in 380, gave notice at the New Year that they were desirous of making a change of doctor. The names of 207 insured persons were removed from practitioners' lists at request of the latter. During the third quarter of last year just over 1 million prescriptions were given to insured persons, an average of 0·67 a head at a cost of 9·64*d.* each prescription, the expense being almost equally divided between the cost of ingredients and the fee for dispensing. One practitioner, whose prescriptions for the first quarter of the year averaged 1·11 (instead of 0·92) a head at a cost of 11·91*d.* (instead of 9·25*d.*) each prescription, was surcharged £2 4*s.* 8*d.* by the Insurance Committee on the ground that the drugs ordered were in excess of what was reasonably necessary for adequate treatment. Several of his patients received 25 or more mixtures each during this period. Only 47 insured persons applied to be allowed to make their own arrangements for medical benefit. Over 1,650,000 cards were issued for the new form of medical record which came into operation on Jan. 1st. The current issue of the *London Panel Committee Gazette* replies to certain general questions which have arisen as to the use of these cards. Practitioners are only required to record such clinical notes as they consider will be of use to them or to any practitioner who may subsequently have the care of an insured person. Where an independent record is kept of visits or attendances available for inspection by the regional medical officer it is allowed that after the first visit, or first three attendances, the total number of these may be entered weekly or monthly; the date of the first (or initial) certificate and that of the last (or final) certificate only require to be recorded.

THE CONCENTRATING ACTIVITY OF THE GALL-BLADDER.

IT has long been recognised that the gall-bladder must have a concentrating function, since bile from the gall-bladder is more concentrated or inspissated than that in the bile-ducts of the same animal. Previous experiment[1] has shown that the fluid which collects in bile-ducts artificially obstructed is an inspissated tarry bile when the ducts communicate with the gall-bladder, whereas in ducts unconnected with this viscus the fluid is thin and soon becomes free from pigments and bile salts. Mr. P. Rous and Mr. P. D. McMaster, of the Rockefeller Institute, taking advantage of the disposition of the bile-ducts in the dog, have sought to determine the rate of concentration. There are three hepatic ducts in the dog, which unite to form a common bile-duct, with the cystic duct opening high up into the central one. Through an opening near the lower end of this last a catheter was pushed into the neck of the gall-bladder, which was emptied and washed with salt solution, the duct being ligated after the catheter was withdrawn. The bile from the middle lobes of the liver thus had no escape save into the gall-bladder, while that from the lobes to either side still reached the common duct. From this it was collected into a rubber balloon placed in the peritoneal cavity, the abdominal cavity being then closed. A control experiment was made by substituting a similar balloon for the gall-bladder, which showed that the separated portions of bile differed little in their pigment content, which was taken as the index of concentration. After 24 hours the gall-bladder, still undistended, was regularly found to contain only one-sixth to one-tenth as much fluid as was shown on calculation to have reached it, but this, thick and dark, was six to ten times as concentrated in pigment as the control specimen in the rubber balloon. The results were the same when, without other variations in the experiment, the gall-bladder was filled to the normal distension with sterile bile of known character prior to withdrawal of the catheter. At the autopsy the branches of the hepatic duct always contained a thin bile like that in the balloon, a direct proof that the thick contents of the gall-bladder had not come as such from the liver. It is therefore evident that the gall-bladder can concentrate bile with very great rapidity, and this raises the question whether concentration of the bile in periods of intermittent or partial stasis may not be an important favouring element in the formation of gall-stones.

[1] THE LANCET, 1920, ii., 864.

FRIEDMANN'S VACCINE.

THE controversy over the merits of Friedmann's vaccine appears to be raging as vehemently as ever in the German medical press and at medical meetings, the discussions at which are marked rather by heated partisanship than a judicial preference for truth. In the *Deutsche medizinische Wochenschrift* for Jan. 6th Professor W. Kruse, of Leipzig, complains bitterly of the open hostility with which his address on the subject of Friedmann's vaccine at the Medical Society of Berlin was greeted by his audience. He found it most galling, while voicing his conviction that this vaccine is of incalculable importance both as a prophylactic and as a remedy for tuberculosis in the early stages, to be constantly interrupted by cries of "Keep to the point." Professor J. Schwalbe's answer to this complaint in the same number of this journal is to the effect that when a provincial professor comes to Berlin to teach his colleagues wisdom he should not exasperate them by mouthing platitudes. The audience at the meeting of the Berlin Medical Society had come to hear what the director of the Hygienic Institute of the University of Leipzig had to tell them of his experimental investigations into the action of Friedmann's vaccine, and only after they had listened for some time to such truisms as "..... the germ of tuberculosis is evidently widely distributed and easily transmitted" had silent attention given place to interruptions. To outsiders unfamiliar with the petulant atmosphere in which the Friedmann controversy has been enveloped for several years, it must seem strange that after more than eight years' trial the remedy should still hold such an equivocal position in the medical world.

CARCINOMA OF THE PROSTATE.

Dr. H. C. Bumpus,[1] of Rochester, Minnesota, has made a study of 362 cases of carcinoma of the prostate observed at the Mayo clinic from 1914 to 1919 inclusive, with special reference to metastases. He considers that metastasis to the glands occurs more frequently than is demonstrable clinically—in his series it was found in only 37, or 10·2 per cent.—because of the inaccessibility of the glands first involved. He states that clinically and microscopically carcinoma of the prostate presents two fairly distinct types of enlargement. In the first and more malignant type the gland is so slightly enlarged, and gives rise to so few local symptoms, that the condition is often only recognised by the symptoms produced by metastasis. In the more common type of carcinomatous prostate urinary symptoms are more pronounced, and metastases occur later

[1] Surgery, Gynecology, and Obstetrics, January, 1921.

than in the first type. Owing to its lesser degree of malignancy this type is more amenable to radium-therapy. Dr. Bumpus estimates that one-third of the patients with carcinoma of the prostate have osseous metastases demonstrable by X rays, the most frequent sites being the pelvis, vertebræ, and femora. Pulmonary involvement is rare and occurs late in the disease, probably never without metastases elsewhere. In Dr. Bumpus's three patients in whom metastases were found in the lungs there was also pelvic and spinal involvement, and in two the ribs, and in one the femora were also affected. Spinal cord involvement which occurred in eight of his cases closely simulates primary spinal cord tumours, and is apt to occur when the prostate is only slightly enlarged, giving rise to pain simulating intracostal neuralgia or aneurysmal pains. Owing to the absence of urinary symptoms in a considerable proportion of all cases with metastases—11·5 per cent. in the present series—the possibility of carcinoma of the prostate should always be considered in men above middle age who complain of neuralgia and rheumatic pain, even in the absence of urinary symptoms.

MEDICAL PROVIDENT SCHEMES.

THE Sussex Provident Scheme for Hospital Benefits and Additional Medical Services, of which we were able to give the details in our issue of Jan. 15th, has not only gained the approval of all branches of the medical profession in the county of its origin, but is attracting a good deal of attention elsewhere. And rightly, for, given a comprehensive medical service debarring no one from obtaining every known means of diagnosis and treatment, it does not much matter whether it is paid for by a subscription or premium according to means, or by a tax or rate. The essential aim in either case is to organise a service which the patients can afford and which will at the same time afford fair remuneration to the doctors. The claims made on behalf of the Sussex Provident Scheme may be briefly summarised thus:—

1. That it calls for no capital expenditure and entails no expense either to the State, the rates, or the hospitals, nor does it ask for charitable contributions.
2. That it provides the hospitals with a new source of revenue which has great financial possibilities and may help to save the voluntary system.
3. That it does not materially interfere with the present work or the established routine of the hospital.
4. That, although not offering general practitioner attendance, it supplies its members with all those facilities which may be necessary for their efficient treatment in illness, and which are not provided under the National Health Insurance Acts.
5. That the ready access to these facilities must tend to the prevention and early arrest of disease, and so to an improvement in the standard of national health.
6. That it benefits the general practitioner by giving him wider facilities for diagnosis and treatment; by keeping in his hands many patients whom he would otherwise lose in hospital; and inasmuch as the members of the scheme can only obtain its benefits through their doctor, by giving him a position of greater influence and prestige.
7. That it benefits the consultant by providing remuneration for those members of the honorary staffs of hospitals who are willing to carry out its provisions with regard to consultations, whether personal or by correspondence, at the hospital; and by giving full fees for consultations at the patient's house, instead of the reduced fees which are now so often accepted. It is also obvious that these consultations are likely to be much more numerous when the general practitioner knows that they will entail no expense to his patient.
8. That it gives an opportunity of profiting by hospital treatment to people of many classes whose circumstances are really as necessitous as those of the manual worker, but who have hitherto felt themselves debarred from accepting charity, and have shrunk from the publicity of a hospital.

These ends are to be attained in the Sussex scheme by bringing in all the nine coöperating general and special hospitals on a uniform basis. Urgent cases will be admitted to hospitals as at present, other cases requiring operation or other hospital treatment will, after consultation, be admitted to hospital, or be placed upon the waiting list of the hospital until there is a vacant bed, but a member will not take precedence over more urgent cases, and the ordinary hospital routine will not be disturbed. In all the coöperating hospitals in which private beds are reserved at present for paying patients, members will be admitted to these beds if available, should they desire it, at a uniform reduction of 1 guinea a week from the usual price of the bed. The specific rules, which have been very carefully thought out for local needs, are as follows:—

1. No one will be accepted as a single member except an unmarried man or woman, or a widower or widow without children under the age of 16. The subscription for a single member will be £1 per annum
2. Married people without children, or a widower or widow with only one child under the age of 16 years, may only subscribe jointly at a rate of £1 10s. per annum for the two, although each shall be accounted a member.
3. Married people with a child or children under the age of 16, or a widower or widow with children under the age of 16 years, may only subscribe at a family rate of £2 per annum, which shall include the whole family, however large, except children over the age of 16, who must be accepted as single members, although each individual in the family shall be accounted a member. N.B.—These rates are subject to revision by the coöperating hospitals after due notice.
4. All candidates for membership must be approved by the "Committee of Reference" formed by the coöperating hospitals, except in the case of those insured under the National Health Insurance Acts, who will produce their medical card. In the event of the eligibility of any member being questioned, the matter will be submitted to the "Committee of Reference," whose decision shall be final.
5. Cards of membership, bearing the date, will be issued on the first day of each month to those who have become members during the preceding month, and the benefits will begin on the date of the card, and continue for one calendar year. These cards can be produced as evidence of membership.
6. At the end of one year from the date of issue of the membership card the benefits will cease unless the subscription has been renewed. Fourteen days grace will be given for renewal (during which no benefit will be available), but, after this, renewed membership will only be possible from the beginning of the next quarter.
7. When the number of members has reached the limit of the capacity of the coöperative hospitals the list will be closed.
8. When a member is leaving the county within the first six months of membership, and in consequence wishes to resign, one-half of the subscription will be repayable upon application.

Consultation fees are to be drawn from a pool formed by deducting 25 per cent. of the moneys allotted to each hospital, and it is obvious that the plan can be similarly applied to the conditions ruling in other areas. It should be carefully noted that the Sussex scheme does not include general practitioner services and is restricted to a maximum yearly income limit at present fixed at £260 for single members and £500 for a family. We publish this week for comparison a scheme for a London coöperative polyclinic drawn up by Mr. C. A. Parker, honorary secretary of the State Medical Service Association, which is of a still more inclusive nature and is intended also to cover the general practitioner service, and is not limited as regards maximum income. In each case the principle of assurance is the same, the fortunate by their annual contributions helping their less fortunate brethren, adhesion being on a voluntary basis.

THE ACTION OF SUPRARENAL TOXIC SERUM ON ATHEROMA.

THERE are two theories which hold the field with reference to the pathology of arterio-sclerosis, one which regards hypertension as the principal factor in the arterial lesions, the other which considers these lesions to be directly toxic in nature. Josué found that intravenous injections of adrenalin were followed by increase of arterial pressure, and subsequently produced atheromatous lesions in the arteries. Certain observers explain this experimental atheroma by the vasomotor, others by the toxic, action of the adrenalin, while others again, such as Lucien and Thévanot, hold that this substance acts simply through an atheromatogenous action independent of the two preceding. Observations by Etionne and Parisot, who, by submitting animals to intravenous injections of adrenalin and at the same time of vaso-dilatory substances, such as iodine and trinitrin, invariably obtained atheromatous lesions of the aorta, seem to indicate that increase of arterial pressure is not a necessary condition to the production of atheroma, and that this is, on the contrary, due to the atheromatogenous action of the adrenalin. Dr. Fabio Marabotto[1] has lately undertaken

[1] Annali dell' Istituto Maragliano, vol. viii., Fasc. 4, August, 1916.

some new experiments on this question at the Istituto Maragliano at Genoa. Using a watery solution of suprarenal capsule he found it was possible to produce atheroma in rabbits when administered intravenously, but not when given by mouth or subcutaneously. This atheromatogenous action was constant and in direct proportion to the number of intravenous injections given to the animals, and it was always associated with a hypertensive action. By inoculating repeated small doses of emulsion of suprarenal tissue into rabbits Dr. Marabotto induced in their serum lytic properties towards suprarenal tissue and he found that alternate injections of suprarenal extract and of this suprarenal toxic serum, the latter subcutaneously, caused an infinitesimal degree of alteration in the aortic parietes not in the least comparable with that produced by the former alone. Similar results followed the administration by mouth of this toxic serum, but the arterial changes were rather more marked. There seems, therefore, a strong probability that such a serum, produced experimentally and having suprarenal toxic properties, may be of use in treating atheroma and arterio-sclerosis in the human subject. The whole question is full of interest; arterio-sclerosis is common, its effects far reaching, serious, and often fatal, its precise origin still undetermined, and any contribution to the solution of the problem, and especially with a view to establishing a scientific treatment, is worthy of the attention and consideration of pathologists.

HEALTH IN LONDON AND CALCUTTA.

THE vital statistics of the year 1920 for London, issued last week by the Registrar-General, are in striking contrast with those of the year 1919 for Calcutta, available in the report of the health officer which we summarise on p. 307. In London the general death-rate per 1000 living was 12·4, the lowest on record; the infant mortality-rate per 1000 births was 75, also the lowest on record. Dr. H. M. Crake gives the general death-rate for Calcutta as 42·2, the highest rate ever recorded in the city except that of the plague year 1900, and more than treble that of London. The rate varied widely in different parts of the city, reaching the appalling level of 81·1 in Kidderpur, and sinking to 15·3 in the Park-street area and actually to 5·8 in Fort William. There is evidently, as Dr. Crake remarks, nothing in the climate of Calcutta to necessitate this high general level of mortality, which is nearly 50 per cent. higher in females than in males. As regards racial incidence, the death-rate was 45·2 for Hindus, 37·9 for Mohammedans, and 27·4 for non-Asiatics. Cholera, small-pox, and influenza were all present during the year in acutely epidemic form. Plague also was on the increase, enteric fever was more prevalent than in any of the five preceding years, tuberculosis was slightly more fatal, and there was a mysterious outbreak of epidemic dropsy in the latter part of the year. Dr. Crake deals with some of the known causes of these figures—the purdah system depriving women of fresh air and constantly exposing them to insanitary environment, the many potential plague centres, the contamination of water tanks by ceremonial ablution, the movements of pilgrims, the presence of typhoid carriers, the waning protection of vaccination. It certainly seems time that some of the enterprise and effective sanitary administration which have made of London one of the healthiest cities of the world should now be devoted to a concerted campaign against disease in the old capital of the Indian Empire. There is abundant outlet there for the new applications of social medicine, and the new School of Tropical Medicine and Hygiene will be fully opened in Calcutta next month.

THE opening letter in our correspondence columns reiterates the plea, which we have made more than once, for harmonious coöperation in the attack upon venereal diseases. A review of Sir Archdall Reid's book on p. 279 should be read in this connexion.

A SUGGESTED
LONDON COÖPERATIVE POLYCLINIC.

BY CHARLES A. PARKER, F.R.C.S. EDIN.

IN view of the recognised necessity of "team" work amongst the medical profession, and of the strong recommendations of the Dawson Report for a health service "available to all citizens," I suggest that a group or team of medical practitioners should be formed to provide a complete medical service, with a well-equipped health centre, primarily for that large section of the community whose incomes are above the limit of the National Insurance Act, but which nevertheless is unable to provide for itself the costly methods of diagnosis and treatment of the present time. It is especially unable to afford the fees of private nursing homes, and has consequently to seek admission to the voluntary hospitals, thus draining their resources and adding to their long waiting lists.

This section of the community, many of whose members have small fixed incomes, are especially hit by the present high cost of living, and are finding the difficulties consequent upon illness even greater than they were before the war. The provision of such a medical service as that now contemplated is, therefore, more than ever necessary.

The scheme here presented is based upon the principles of insurance, whereby the fortunate by their annual contributions help their less fortunate brethren. This principle is sound, and has been applied with marked success to life, accident, sickness, fire, and burglary, and, indeed, to almost every conceivable risk, and there is every reason to believe that it could be applied with equal success to the provision of medical services. Whilst the scheme is primarily intended for those whose incomes exclude them from the benefits of the National Health Insurance Act, it is nevertheless recognised that there is at present no organised service of consultants and specialists available to nationally insured persons. It is therefore proposed to throw such services open to them at a modified fee. The outlines of the scheme here follow.

Objects.

(1) To provide a complete medical service, including general practitioners, consultants, and specialists of all sorts, for members of the middle classes, not provided for by the National Health Insurance Act, on the principle of voluntary insurance.

(2) To provide a health centre with all necessary consulting-rooms and special departments.

(3) To provide a private hospital, or other hospital accommodation, for its members.

(4) To provide consultative and specialist services, and as far as may be possible hospital accommodation, for those insured under the National Health Insurance Act.

Membership.

Membership shall be limited to persons having incomes between £250 and £1500 or £2000 a year (together with their families), and to those residing within the London postal area. Insured persons (N.H.I. Act) shall be eligible for the consultative, specialist, and hospital portions of the service in consultation with, or accompanied by a written report from, their general practitioners.

Benefits.

The annual subscription shall entitle members to the following benefits: (1) The services of a general practitioner; (2) medical assistance at confinements; (3) the services, when necessary, consultative and operative, of the consultative and specialist staff—individually or collectively; (4) consultations with consultants and specialists other than members of the staff at specially arranged fees; (5) hospital treatment when necessary, provided there be vacant beds; (6) free choice of doctors belonging to the Service.

N.B.—Under special circumstance members shall be permitted to subscribe for the consultative, specialist, and hospital portions of the service only, but they shall only be eligible for such portions in consultation with, or accompanied by a written report from, their general practitioners. This shall also apply, as stated above, to insured persons (N.H.I. Act).

Subscriptions.

Annual subscriptions shall be based on incomes and shall be in accordance with one of the tables attached hereto, or with some modification thereof. The annual subscription for restricted benefits shall be half the subscription for full benefits + 10 per cent., the minimum subscription being in all cases one guinea (£1 1*s*.).

N.B.—Married members must insure *all* their dependents. Drugs and surgical appliances are *not* covered by the subscriptions.

The Medical Staff.

The medical staff shall include: general practitioners, consulting surgeons and physicians, specialists in all branches of medicine and surgery and allied sciences, and consulting dentists—for advice only.

General practitioners.—General practitioners shall form an important part of the organisation and shall in every way be on an equality with the consultative staff. They shall be entitled to the use of the health centre and to its equipment when necessary to them in their work. They shall work in close coöperation with the members of the consultative staff. All general practitioners shall be at liberty to join the staff of the polyclinic, and shall hold office subject to the rules to be drawn up by the committee of management.

Consultants and specialists.—All members of the consultative staff shall be appointed by the committee of management upon the recommendations of a specially appointed committee of selection. They shall (*a*) hold office subject to the rules drawn up by the committee of management; (*b*) attend the health centre on specified days at specified hours for the purpose of seeing patients; (*c*) work in close coöperation with the general practitioners; and (*d*) visit patients in their homes at the request of any other member of the staff, general practitioner or consultant.

Methods of Remuneration.

General practitioners shall be paid at the rate of £1 2*s*. per head of potential patients on their lists. They shall be paid 5 guineas for each confinement. The consultative staff shall be paid in the first instance on a time basis, but later on a definite fee per session will probably be the better plan.

The Private Hospital.

Members of the polyclinic shall be given the first call on all beds of the hospital. They shall be admitted free to the wards of the hospital; moderate fees shall be charged for the use of a private room. When there are vacant beds non-members may be admitted, preference being given to patients of the members of the staff. Non-members shall be charged, say, £5 5*s*. a week for a bed in a ward and £8 8*s*. for a private room.

Profits.

All profits shall be applied to one of the following objects: (1) increasing and improving the equipment of the health centre; (2) enlarging or improving the private hospital; (3) reducing the premiums for membership of the polyclinic.

Management.

The management shall be vested in a committee of 12 persons, eight of whom shall be members of the medical staff and four subscribing members of the polyclinic. There shall be a president (lay or medical), who shall be nominated by the Minister of Health, the President of the Royal College of Physicians of London, or the President of the Royal College of Surgeons of England.

The president shall be ex officio chairman of the committee of management. The eight medical members shall be elected by the members of the medical staff, all of whom shall have the right to vote. The four lay members shall be nominated by the president from amongst the members of the polyclinic (or shall be elected at an annual general meeting of the subscribers).

There shall be an honorary treasurer whose duties shall be defined by the committee. The accounts shall be audited by professional auditors appointed by the committee. There shall be a salaried secretary-superintendent, who shall be responsible for the organisation and management of the polyclinic and the private hospital.

Finance.

A small company, registered as a non-profit-earning company, shall be formed for the purpose of acquiring by rent or purchase and of equipping a health centre and private hospital. The necessary capital shall bear a fixed rate of interest, say 6 per cent. A sinking fund shall be established for the purpose of redeeming the capital as soon as possible.

The company shall sublet the health centre and private hospital to the London Coöperative Polyclinic at a rental equivalent to its out-goings, together with 6 per cent. on the capital invested until such is redeemed.

Initial Steps.

In order to carry this scheme into effect it would be necessary to:—

(1) Form a temporary organising committee to approve or amend these suggestions, to get the necessary legal advice, and to get further actuarial advice as to which table of premiums is likely to prove most attractive to the public.

(2) Invite general practitioners to join the staff and to invite applications for the consultative staff of the health centre.

(3) Make the scheme known to the public and open a list of membership.

(4) Open a subscription list for debenture shares at 6 per cent. in the London Polyclinic, Ltd., with the object of providing and equipping the health centre and private hospital and of covering the outgoings for the first two years.

It would not be necessary to wait until the capital had been raised and the health centre and hospital had been equipped, for, in the first instance, it would be possible to arrange with the consultative staff to see patients at their own homes or to obtain the use of one or two rooms as a nucleus of the health centre. It would also be possible to arrange with bacteriologists and radiographers to carry out the necessary work of the polyclinic at their own laboratories. As regards hospital accommodation arrangements could be made with general and special voluntary hospitals and with private nursing homes to take in cases for the polyclinic at fixed rates. Voluntary hospitals could be given a donation of £4 per week per patient admitted, which would be a help towards their funds.

If this scheme were successfully launched in London it could easily be extended to the provinces, and finally to the whole country. It would have the great advantage of keeping the control and management in the hands of medical men and their patients, and it might render an extended system of *compulsory* insurance, now in the air, unnecessary.

Premium and Expenditure Tables.

Explanatory Note.—The last Census returns show that of every 1000 of the adult population—i.e., over 20 years of age—695·5 are married, and that each married couple has an average of 2·2 children. For the purposes of these tables the round figures of 700 married and 300 single are taken. The proportion of 1000 breadwinners or income-owners having the incomes specified are taken from income-tax returns. The necessary premiums are based upon a unit of 1000 breadwinners and 1000 nationally insured persons, but with 5000 subscribing breadwinners and 2000 insured persons the premiums could be reduced by 25 per cent.

TABLE I.—*Premiums per Head of Insured Persons.*
Unit of 1000 Breadwinners representing 3240 Souls.

Incomes.	Single.	Married.	Total.	Dependents.	Total.	Annual premiums per head.	Total receipts per annum.	Premiums for consultative service only.
						£ s. d.	£ s. d.	£ s. d.
Under £250	1000 insured persons (N.H. Ins. Act) at ...					1 1 0	1,050 0 0	1 1 0
£250– 300	97·5	227·5	325	727	1052	1 15 0	1,841 0 0	1 1 0
300– 400	67·5	157·5	225	504	729	2 0 0	1,458 0 0	1 1 0
400– 500	29	67	96	214·4	310·4	2 7 6	737 4 0	1 8 6
500– 600	23	51	74	163·2	237·2	2 15 0	652 6 0	1 13 0
600– 700	16	39	55	124·8	179·8	3 2 6	561 18 0	1 17 6
700– 800	14	31	45	99·2	144·2	3 10 0	504 14 0	2 2 0
800– 900	10	25	35	80	115	3 17 6	445 12 6	2 6 6
900–1000	8	10	28	64	92	4 5 0	391 0 0	2 11 0
1000–1100	6	14	20	44·8	64·8	4 12 6	299 14 0	2 15 6
1100–1200	5	12	17	38·4	55·4	5 0 0	277 0 0	3 0 0
1200–1300	4½	10½	15	33·6	48·6	5 7 6	261 5 6	3 4 6
1300–1400	4½	10½	15	33·6	48·6	5 15 0	279 9 0	3 9 6
1400–1500	4½	10½	15	33·6	48·6	6 2 6	297 15 0	3 13 6
1500–1750	6	14	20	44·8	64·8	10 0 0	648 0 0	6 0 0
1750–2000	4½	10½	15	33·6	48·6	12 0 0	583 4 0	7 4 0
—	300	700	1000	2240	3240	—	10,288 2 0*	—

* Excluding incomes over £1500 and readjusting, receipts = £9396 or £2 4*s*. 2*d*. a head.

N.B.—A table has also been prepared with incomes grouped more simply in eight divisions.

TABLE II.—*Premiums on Breadwinners, with Extra Premium for Each Dependent.*

Unit of 1000 Breadwinners representing 3240 Souls.

Income.	Single.	Married.	Total breadwinners.	Dependents.	Total persons.	Premiums, breadwinners.	Premiums, dependents.	Total receipts per annum.
	(1000 Insured persons)					£ s.	£ s.	£ s.
Under £250	((N. H. Ins. Act) at)					... ...	1 1	1,050 0
£250– 300	97·5	227·5	325	727	1052	3 10	1 0	1,865 10
300– 400	67·5	157·5	225	504	729	4 0	1 0	1,404 0
400– 500	29	67	96	214·4	310·4	4 10	1 5	701 0
500– 600	23	51	74	163·2	237·2	5 0	1 10	615 0
600– 700	16	39	55	124·8	179·8	5 10	1 15	520 0
700– 800	14	31	45	99·2	144·2	6 0	2 0	468 0
800– 900	10	25	35	80	115	6 10	2 5	407 0
900–1000	8	20	28	64	92	7 0	2 10	356 0
1000–1100	6	14	20	44·8	64·8	8 0	3 0	294 0
1100–1200	5	12	17	38·4	55·4	9 0	3 5	277 0
1200–1300	4½	10½	15	33·6	48·6	10 0	3 10	268 0
1300–1400	4½	10½	15	33·6	48·6	11 0	3 15	291 0
1400–1500	4½	10½	15	33·6	48·6	12 0	4 0	314 0
1500–1750	6	14	20	44·8	64·8	20 0	4 10	634 0
1750–2000	4½	10½	15	33·6	48·6	25 0	5 0	543 0
—	300	700	2240	3240	—	—	—	10,007 10*

* Excluding incomes over £1500 and readjusting, receipts will = £9086, or £2 3*s.* 9*d.* a head.

N.B.—A table has also been prepared in which the premium is based upon a percentage of the breadwinner's income : 1½ per cent. up to £1500 and 2 per cent. over £1500. This method has the disadvantage of heavily penalising the unmarried person.

TABLE III.—*Income and Expenditure.*

Receipts (as per Table I.).

	£	s.	d.
From 1000 insured persons (N.H.I. Act)	1050	0	0
From incomes from £250 to £1500	8346	0	0
	9396	0	0

Expenditure.

Number of persons covered = 4240.			
Number requiring advice from general practitioners = 2120.			
Number requiring consultations = 12 per cent. of actual patients = 254·4 at, say, £6 6*s.* each	1602	15	0
Number requiring operations = 10 per cent. of consultations, at, say, £36 15*s.* each...	934	18	0
Hospital cases = all operations and half as many medical cases = 38·16.			
Average stay in hospital = 2 weeks.			
Total weeks of patients in hospital = 76·32, at, say, £5 ...	381	12	0
General practitioners : 3240 persons at, say, £1 2*s.* each...	3564	0	0
Confinements = 50, at, say, £5 5*s.* each	262	10	0
Upkeep of health centre	2000	0	0
Balance	605	5	0
	9396	0	0

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Sensitised Rabbit Serum for Hæmorrhage.

Mons. H. Dufour has issued the interesting results of researches carried out in his laboratory at the Hôpital Broussais in Paris on the use of an antihæmorrhagic serum discovered by him and known as anthema. Mons. Dufour had previously observed[1] that horse serum used as a hæmostatic drug has a marked effect only when it happens to cause anaphylaxis. Anthema is rabbit serum which has been sensitised by the anaphylactic effects of repeated intravenous injections of horse serum. Mons. Dufour, having discovered that rabbit serum prepared in this way causes hypercoagulability of the blood when injected into guinea-pigs, reported this fact to the Académie de Médecine, and advocated the use of anthema serum in cases of hæmorrhage. In a recent article[2] he records most satisfactory results obtained in 20 cases of various kinds of hæmorrhage (epistaxis, hæmoptysis, hæmatemesis, hæmophilia, and intestinal hæmorrhage in typhoid fever). The cases were observed by Mons. Dufour himself and MM. A. Schwartz, G. Caussade, and P. Raymond. The dose consisted of a hypodermic injection of 10 to 20 c.cm. of anthema, which was repeated in certain instances.

[1] Utilisation Thérapeutique du choc Anaphylactique. Bulletin de la Société Médicale des Hôpitaux, No. 20, June 11th, 1914.

[2] Le Sérum Sérique Antihémorragique. By MM. H. Dufour and Y. Le Hello. Presse Médicale, Jan. 12th, 1921.

Unsuccessful Action against a Medical Practitioner.

A case which has aroused great interest amongst medical practitioners has lately been heard at Nimes, where a doctor was unsuccessfully prosecuted for homicide through imprudence. The charge was against Dr. F. Mazel, who had been called by a Major Arnaud to attend to his two daughters, both of whom died, one in December, 1915, and the other in January, 1916, and Fr.200,000 damages were claimed. The accusation against him was that he changed without sufficient reason the treatment prescribed by the late Professor J. Grasset, that he prescribed subcutaneous injections of strychnine in too large doses, that he procured a nurse who proved incapable, that he continued the course of injections in spite of the formation of secondary abscesses, and that he performed useless lumbar punctures. A Paris physician, Dr. F. Dervieux, who was appointed as medical expert, was of opinion that it was not from typhoid fever that the patients had died, but from septicæmia following septic injections; as he thought that the nurse who gave them had not been sufficiently watched by Dr. Mazel he concluded the responsibility of the accused was undoubted. However, rebutting evidence was given by other doctors in the course of the trial. The verdict of the case, awaited with much concern by medical practitioners, was in Dr. Mazel's favour, and has been received with general approval.

Jan. 29th.

URBAN VITAL STATISTICS.

(Week ended Jan. 29th, 1921.)

English and Welsh Towns.—In the 96 English and Welsh towns, with an aggregate population estimated at 18½ million persons, the annual rate of mortality, which had been 13·9, 12·8, and 13·3 in the three preceding weeks, fell to 12·3 per 1000. In London, with a population of 4½ million persons, the death-rate was 11·6, or 1·3 per 1000 below that recorded in the previous week, while among the remaining towns the rates ranged from 5·9 in Bootle, 6·6 in Reading, and 6·9 in Ilford and in Cambridge, to 19·7 in Middlesbrough, 19·8 in Sunderland, and 21·3 in Barnsley. The principal epidemic diseases caused 250 deaths, which corresponded to an annual rate of 0·7 per 1000, and comprised 90 from infantile diarrhœa, 80 from diphtheria, 33 from whooping-cough, 23 from measles, 22 from scarlet fever, and 2 from enteric fever. Measles caused a death-rate of 1·2 in Middlesbrough, whooping-cough of 1·6 in Willesden, and diphtheria of 2·6 in Ipswich and 2·9 in Barnsley. There were 4171 cases of scarlet fever, 2682 of diphtheria, and 1 of small-pox under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, against 4350, 2618, and 1 respectively at the end of the previous week. The causes of 25 of the 4360 deaths in the 96 towns were uncertified, of which 5 were registered in Birmingham, and 3 each in South Shields and Gateshead.

Scottish Towns.—In the 16 largest Scottish towns, with an aggregate population estimated at nearly 2¼ million persons, the annual rate of mortality, which had been 18·4, 15·9, and 15·8 in the three preceding weeks, rose to 16·3 per 1000. The 323 deaths in Glasgow corresponded to an annual rate of 15·3 per 1000, and included 10 from whooping-cough, 8 from infantile diarrhœa, 4 from diphtheria, 2 from small-pox, and 1 each from measles and scarlet fever. The 160 deaths in Edinburgh were equal to a rate of 18·7 per 1000, and included 4 from measles, 3 from infantile diarrhœa, and 1 each from whooping-cough and diphtheria.

Irish Towns.—The 128 deaths in Dublin corresponded to an annual rate of 15·8, or 0·8 per 1000 below that recorded in the previous week, and included 4 from infantile diarrhœa, 2 from whooping-cough, and 1 from diphtheria. The 136 deaths in Belfast were equal to a rate of 16·9 per 1000, and included 6 from whooping-cough, 3 from infantile diarrhœa, and 1 each from enteric fever, scarlet fever, and diphtheria.

Correspondence.

"Audi alteram partem."

PROPHYLAXIS IN VENEREAL DISEASE.

To the Editor of THE LANCET.

SIR,—The dispute which is being waged on the subject of prophylaxis in venereal disease has long ago lost the characteristics of a scientific discussion and is rapidly acquiring those of a family quarrel. What is more distressing still is the fact that this quarrel has spread beyond the confines of the medical into the lay press, so that the noise and clamour of it are plainly heard by the man in the street. Small wonder that the latter has shrugged his shoulders and lost his confidence in those to whom he is entitled to look for leadership and advice.

Has not the time come for emphasising points of agreement rather than those of dispute? Two societies exist for the purpose of combating venereal disease; on their lists of membership appear names that command respect and consideration for the opinions that each society has advanced. No one who has seen the excellent work achieved by the N.C.C.V.D. can consider it an effete body that has sacrificed every practical measure to a sentimental fetish. No one who has read the list of membership of the S.P.V.D. can suppose for one moment that such eminent men would deliberately support a policy that is calculated to undermine the moral welfare of the community. In spite of the noise and dust raised by various extremists it is certain that there exists a considerable sphere of activity common to both societies. It is only over the question of prophylaxis that the split has arisen. The S.P.V.D. is convinced that the packet system has been instrumental in materially reducing the incidence of venereal disease in the Services, and believes that its adoption by the civil community would be equally productive of good. The N.C.C.V.D., on the other hand, is dissatisfied with the results of prophylaxis in the Services, and does not in any case believe that the adoption of the packet would be effective when applied to the civil community. Each of the societies has put forward statistics upon which the other has cast doubts, and each has arrived at conclusions which are endorsed by experienced authorities. Where does the truth lie? It is difficult, or impossible, at the moment to say. Statistics can be found to prove or disprove most of our prejudices, and our attitude towards the question of "packets for the people" must for the present be based on personal opinion rather than established fact. The centre of truth, like the centre of gravity, lies somewhere between the two extremes. It is possible that the N.C.C.V.D. has underrated the importance of prophylaxis in the campaign against venereal disease. It is equally possible that the S.P.V.D. in its enthusiasm for a neglected remedy has tended to regard it as the "single measure that will cure our ills."

There is work for all in the campaign against venereal disease. The N.C.C.V.D. is doing yeoman service in its educational campaign and in its agitation for the provision of free and adequate treatment for venereal disease throughout the world. The S.P.V.D. is convinced of the success of prophylaxis in the army and believes that its extension to the civil population will be equally productive of good. Its action is the logical outcome of these views. Let each of the societies work along the line it has chosen, but let it be recognised that until further facts are forthcoming it is upon personal opinion rather than upon verified fact that its conclusions must rest.

Lastly, may I put forward a suggestion that has already been made. Is it asking too much that members of the two societies should arrange to meet? Surely it is better that differences of opinion should be amicably discussed in a meeting of medical men rather than be made the subject of a bitter and somewhat tedious correspondence in the press. I believe that if such a meeting could be arranged a vast amount of common ground would be found to exist between the two societies, and that a satisfactory working agreement could be arrived at on this thorny subject of prophylaxis.

I am, Sir, yours faithfully,

Harley-street, W., Jan. 26th, 1921. KENNETH M. WALKER.

PART-TIME OR WHOLE-TIME FOR THE M.O.H. AND S.M.O.

To the Editor of THE LANCET.

SIR,—While agreeing with Dr. A. M. Barford's letter on this subject in THE LANCET of last week in regard to the merits and claims of the general practitioner, I beg permission to re-state the case categorically and more accurately. The question of relative professional attainment does not arise, though it might be strongly argued either way, and, unfortunately, the very lowest standard in this is compatible with "success" in general practice.

The arguments against "whole-time" service are as follows:—

1. It divorces a man from professional work, occupying him with routine.
2. Even of this there is not a sufficiency to keep him busy.
3. The consequent idleness attracts "undesirables" in spite of the low, but in the circumstances adequate, remuneration.

Against "part-time" work *by a general practitioner* may be urged:—

1. That urgent private calls are apt to conflict with official duties.
2. That a greater temptation exists to "scamp" work on account of impatience, fatigue, &c.
3. That the public appointment is apt to be regarded as a makeshift or stepping-stone to the more lucrative practice.
4. That the double duties leave no time for study and research.

Dr. Barford's suggestion that general practice demands or even encourages professional knowledge, and that its exactions in this respect are dreaded is grotesque, and it is to be hoped that his inaccuracy expends itself in his letters. Yet there is some truth also in his remarks. Does "whole-time" school medical service isolate from professional experience? Yes; but the fault lies with the general profession, which claims the treatment of all but minor ailments. It ought not to make this (its own arrangement) a ground of professional disparagement. Not only do the precautions to exclude from treatment all non-necessitous cases hinder us, but the rest of the "routine" is prescribed by Dr. Barford's own department.

He has, in fact, confused two distinct questions—that of "whole-time" *v.* "half-time" service, and that of the value and rival claims upon the service of "statistical research" and of "treatment." Of course, it is quite obvious that both classes of S.M.O.'s do precisely the same work.

I am, Sir, yours faithfully,

I. D. SUTTIE, M.B., Ch.B., F.R.F.P. & S. Glasg.,
Glasgow, Jan. 31st, 1921. Assistant S.M.O., Glasgow.

To the Editor of THE LANCET.

SIR,—As an assistant S.M.O. allow me to make a very emphatic protestagainst Dr. A. M. Barford's most unjust, insulting, and sweeping denunciation of whole-time M.O.'s, directed, as it was, with particular virulence, towards assistant S.M.O.'s. If we are to believe your correspondent, assistant S.M.O.'s, as a class, are good-for-nothing slackers, unworthy of their hire. For he says:—

"It appears that the whole-time appointments are often sought after by members of the profession who shrink from the responsibilities and competition of general and special medical and surgical practice because of its hard work and the ever-increasing knowledge and skill required in order to be efficient. ..... It appears that the young medico of to-day desires to obtain a job with as little work as possible. ..... The whole time M.O. cannot be said to be a man of the most enterprising and energetic ideals in the practice of his profession."

Now, if Dr. Barford has really met with such despicable characters I cannot see that there is any justification for putting us all in the same class. One butterfly does not make a summer, or one black sheep a black flock. To say that because a man does not select general practice for his life's work he is an unambitious

slacker, or, in his own words, "cannot be a man of the most enterprising and energetic ideals" is simply foolish and not true, or we must class the leading lights of the whole-time service as such. It may be argued that these men are exceptions, which I readily admit, but at the same time I submit that the majority of assistant S.M.O.'s aim at higher posts; as Dr. Barford admits himself by describing us as "birds of passage," so that we cannot be called lacking in ambition and enterprise, as it is well known that the higher posts mean ever-increasing work and responsibility without a corresponding increase in salary. As to the time-table he has so kindly made out for us in his endeavour to prove that we cannot do a decent day's work, he omits to allow any time for getting to our destination or getting back, and very generously allows half an hour longer for lunch than is the custom, and also starts half an hour later than necessary at each session. In the West Riding of Yorkshire, at least, it is quite possible to begin work at 9.30 A.M. and 1.30 P.M. sharp without in the least interfering with the "call over" or religious instruction. To keep to this time-table it is necessary to leave home about 8.30 A.M. for most of the schools, and on an average one gets back about 5 P.M., which represents a good eight-hour day, not allowing for any clerical work done at home. If the general practitioner was only to reckon the actual time spent in examining patients and giving advice I venture to say his time-table would not look very imposing in most cases. As to the value of our work, I will refer you to the Annual Report of the chief M.O. of the Board of Education, wherein it will be seen that considerable importance is attached thereto by those best qualified to judge. Dr. Barford's letter brings us no nearer the solution of part-time or whole-time service.—I am, Sir, yours faithfully,

G. W. FLEMING, L.R.C.P. & S. Edin.,
L.R.F.P. & S. Glasg.,
Feb. 1st, 1921. Assistant S.M.O., West Riding.

To the Editor of THE LANCET.

SIR,—Would Dr. A. M. Barford, whose communication under this heading was published in THE LANCET last week, be kind enough to give a list of the delectable public health appointments to which he refers? I am certain there must be many assistant M.O.H.'s who would be very thankful to have the information; certainly there would be no lack of applicants when such posts were advertised. A four-hours' day for only five days a week, and that for only 38 weeks in the year, sounds so wildly improbable to those who have had experience of the many disadvantages and discouragements associated with junior posts in the public health service that it is difficult to believe Dr. Barford has not been indulging in phantasy.

I am, Sir, yours faithfully,
Cambridge, Jan. 31st, 1921. J. H. GELLATLY.

To the Editor of THE LANCET.

SIR,—Dr. A. M. Barford, whose letter under this heading appeared in your issue of Jan. 29th, obviously writes on a matter of which he has only partial knowledge, acquired, one would guess, within very narrow limits. Passing over his severely unkind and untrue description of the applicants for whole-time public appointments, I am led to wonder where Dr. Barford gained his knowledge of school medical work. He starts away with a fundamental error (which I was beginning to hope even laymen had forgotten by now)—viz., that the work of the school medical service is routine inspection.

"The school medical service is a national institution and its task is of vital interest, not merely to diminish the ordinary wastage of infant life, but also to make and keep the rising generation sound in body and mind."

I find, too, that my experience is directly at variance with Dr. Barford's statements when he says that the assistant S.M.O.'s are a string of "birds of passage." It is quite exceptional here and in many other areas of which I have an intimate knowledge for these officers to be frequently changed. His contention that they cannot do a reasonable amount of work in the year is like other of his statements—not universally true. In Sheffield, and in many other places I know quite well, clinics are held every Saturday morning, and assistant M.O.'s are not always unemployed when the schools are closed, as he apparently would have us believe. When he says that "much of this work is very shoddily done," I must avoid the obvious retort, and get what comfort I can from the reflection that he may be as wrong in this as I suspect him to be. Pessimist he certainly is, and his prediction of the early extinction of the whole-time officer therefore should fail to act as a deterrent to those whose inclinations would lead them to enter other ranks than those of the noble army of general practitioners.

I am, Sir, yours faithfully.
Sheffield, Feb. 1st, 1921. T. CHETWOOD.

AN ATTACK ON LUNACY ADMINISTRATION.

To the Editor of THE LANCET.

SIR,—The article on Lunacy Reform in the *Medical Press and Circular* to which Dr. J. B. Tighe drew attention in your last week's issue appears to be only a part of an organised attack on lunacy administration. The statements quoted by Dr. Tighe must appear to everyone really acquainted with public mental hospitals as monstrous exaggerations and perversions. They appear to be the outcome of prejudice rather than of sane and sober desire for the welfare of the insane. They are sufficiently contradicted, if contradiction were necessary, by the evidence of the Mental After-Care Association, whose experience, in recent years of some thousands of recovered cases, is that these almost invariably express the warmest gratitude for the good and kind treatment they have received from the officers and attendants of these institutions throughout the country, and whose physical condition is a good evidence of the care given to their nutrition and general health.—I am, Sir, yours faithfully,

Hampstead, N.W., Jan. 31st, 1921. HENRY RAYNER.

PATCHWORK ANATOMY.

To the Editor of THE LANCET.

SIR,—In an annotation with this title in THE LANCET of Dec. 11th, 1920 (p. 1212), you do me the honor of discussing at length my book on the "Fundamentals of Human Anatomy." Let me here express my appreciation of the generous tone of the article, more particularly as in the United States we are apt to consider the Britisher ultra-conservative, even a bit antagonistic to new ideas. However, as the professional viewpoint gives mainly one side of the story I trust your readers will be interested in the following defence from the practitioner's point of view.

You consider my effort "an honest attempt to achieve the impossible," and in my turn I cannot conceive of a more felicitous phrase to express how the sympathetic practitioner feels toward the effort of the specialist in anatomy. The specialist maintains correctly that every point in anatomy has either present or potential practical value, and tends to attempt to teach every one—the impossible! Almost all practitioners agree that this is so.[1] My book starts with the assumption that for any individual to know everything about anatomy is an impossibility, and therefore attempts to select such major points as are of everyday importance to practitioners in any or all the subdivisions of our medical science from such as are less frequently required or are of real interest only to various special groups. And on how well or how poorly this selection has been made depends, in final analysis, the success or failure of this effort. This book was evolved to fill what I considered an unsupplied and yet fundamental need, with no idea of exclusion, for surely every posted man must recognise the necessity for anatomies from all special points of view, as well as for reference encyclopedias and complete atlases. The other progressive feature worthy of special note is that the concise descriptions of gross anatomy are illuminated and vitalised by the sidelights from

[1] See Proceedings American Congress on Medical Education, March, 1920, abstracted Jour. Amer. Med. Assn., vol. lxxiv., No. 12, pp. 824-825; and the Proceedings of the Fourth German Congress of Medical Faculties, January, 1920, summarised Jour. Amer. Med. Assn., vol. lxxv., No. 14, p. 952; and the review in the British Journal of Anatomy, vol. liv., July 1920, p. 332.

histology, embryology, physiology, pathology, and the practice of medicine and surgery.

To sum up, the grave shortcomings in the anatomic knowledge of practitioners are widely conceded. The professional anatomist blames it on the clinician, the clinician on the professional anatomist, and latterly the pendulum throughout the world has at least started to swing toward "anatomy in its relation to practice." In conclusion, allow me to quote the final sentence of my preface: "If this volume tends in any degree, directly or indirectly, to bring the teacher and student of anatomy into closer sympathy it will have fulfilled its mission." I am, yours very truly,

St. Louis, Mo., U.S.A., Jan. 10th, 1921. MARSH PITZMAN.

*** We have much pleasure in publishing Dr. Pitzman's views and their sound reasons.—ED. L.

THE INDICATIONS FOR REMOVAL OF TONSILS.

To the Editor of THE LANCET.

SIR,—The article by Mr. M. Vlasto which appears in your issue of Jan. 22nd contains several points which call for comment. The first of these is the statement that tonsillotomy secures drainage for the deeper crypts of the tonsil. Surely the scar-tissue, which is formed as the result of this or any other operation, must bring about just the reverse condition, and is the great argument against this particular operation in any case where one suspects that the "deeper crypts" are involved. Secondly, I do not consider that guillotine enucleation can be satisfactorily performed under short anæsthetics such as ethyl chloride—unless one is satisfied with a "scramble operation." I submit than an adequate general anæsthesia is necessary in all these cases, whether child or adult, if anything like routine success is to attend the efforts of the surgeon. In order to decide if tonsils can be successfully enucleated by the guillotine method it is best to wait till the patient is anæsthetised, and then see whether the tonsil can be dislocated from the pharyngeal wall, and pushed completely through the ring of the guillotine. The instruments for both varieties of technique should be sterilised and at hand, otherwise one is bound to encounter the futile situation where the anæsthetic has been given for a rapid enucleation with guillotine and closer investigation proves that dissection is necessary. It is also vitally important, in either case, that the surgeon should have time to secure any obvious bleeding point and satisfy himself that all bleeding has been controlled *before the case leaves the theatre*.

The writer hardly refers to this possible complication, which cannot be provided for by one of the short anæsthetics; use of the latter, therefore, should not be considered an advantage of enucleation by guillotine. He states that "less traumatism of the tonsillar bed" is produced by the guillotine method than by dissection, and that of two tonsils, one enucleated with the guillotine and the other by dissection, the former will have a capsule "smooth and white," in comparison with the "rougher surface" and "ruddy tinge" of the latter. I maintain that in both these cases the difference is due not to the instrument used, but to (*a*) the tonsil itself and its past history, and (*b*) the skill of the surgeon; and that whereas one of the "small fibroid septic tonsils" enucleated by either method will always present in a greater or less degree "the ruddy tinge of its muscular bed," another tonsil which has not undergone those repeated attacks of inflammation can be removed, with its capsule just as "white and smooth," by means of dissection as by enucleation with the guillotine. Assuming the skill of the surgeon to be beyond question, the former type will always be attended with more "after-pain" than the latter, whatever instrument is used. Enucleation with the guillotine is, in my experience, no more "messy" than dissection; nor do I find the "shape" of the adult tonsil to present any disadvantage to the use of the guillotine where this instrument is not contra-indicated by adhesions of capsule, &c.

In conclusion, I feel that throughout the article the writer has not laid sufficient stress on these facts: first, that consideration of the tonsil itself must decide which instrument can best be employed; secondly, that a longer anæsthesia than that produced by ethyl chloride, &c., is essential to success in this operation.

I am, Sir, yours faithfully,

Worcester, Jan. 31st, 1921. J. B. CAVENAGH.

To the Editor of THE LANCET.

SIR,—The perusal of the interesting and helpful papers by Mr. W. Morris and Mr. M. Vlasto in THE LANCET of Jan. 22nd on the removal of tonsils induces me to suggest to your readers the combination of methods for extraction by means of the guillotine which I have, after trying, found most effective in my hands.

Standing on the left side of the patient if he is recumbent, or sitting in front of him if he is in a chair, I commence on the left tonsil (before it has been made slippery by blood) and use a Morell Mackenzie guillotine in my right hand. While steadying counter-pressure is exercised on the left cheek by the anæsthetist I slip the ring over the tonsil and draw this forward on to the tuberosity of the lower jaw; then I exercise pressure outwards, against the jaw, so that the tonsil is made to "squash" through the ring, becoming everted in the process. Lastly, the blade is pushed home and is almost invariably found to have cut out the tonsil completely with the capsule on its deeper surface, and a narrow ring of mucous membrane, like a circumcised prepuce, round its margin. I then take up Ballenger's guillotine in my right hand, push the extremity of the ring behind the right tonsil, which I force from before backwards through the ring, by means of my left forefinger, press the tip of the guillotine forwards by levering the handle of the instrument on to the left cheek (which is pressed still more to the right by the anæsthetist) and cut out the tonsil quite as completely as on the left side, but with rather more mucous membrane. (Instead of Ballenger's, Mackenzie's guillotine, reversed, can be used.) With my left forefinger I clear the adenoids from the lateral walls of the naso-pharynx so as to press them towards the middle line. Then with Laforce's adenoid box-curette I remove the mass, any remnants being scraped away with Golding-Bird's curette. Lastly, I palpate the posterior extremities of the inferior turbinals, and if I find them enlarged I remove the excess by means of Prince's forceps.

These may seem trumpery details, but it has taken me some time to decide on this mode of removing both tonsils *with my right hand*, being a combination of Sluder's and Whillis's methods.

I am, Sir, yours faithfully,

Harley-street, Feb. 1st, 1921. JAMES DUNDAS-GRANT.

THE DIET OF WELL-TO-DO CHILDREN.

To the Editor of THE LANCET.

SIR,—If you bend the sapling and keep it bent you cannot avoid an angular oak tree. If you overload the juvenile intestine you must expect to find kinks and bands in the adult colon. That we should overload those poor little intestines at all is bad enough, but that we should overload them with the wrong material is infinitely worse.

Intestinal stasis is a deficiency disease. The complete absence of vitamines from children's food, which is secured by boiling milk against the bacillus, is the beginning as well as the head and front of the offending. If vitamines were supplied instead of being suppressed there would be no overloading, for surfeit would then be followed by a wholly beneficent diarrhœa. The surfeit of boiled milk and other devitalised foods gives rise to intestinal fatigue and stagnation; hence the stasis with its multiple and incalculable consequences. It is surely time that the broad human common-sense irradiated by Dr. Des Vœux's letter in your issue of last week replaced the bacillophobia and pseudo-scientific shibboleths of drug therapeutics which still pervade and degrade the teachings of the schools. We have attained to the point of admitting that the milk of the human mother is better than that of the

pasteurised cow. Can we not follow that line of reasoning to its logical, adolescent, and adult conclusion by calling in and cultivating our vitaminous friends to defy our microbic enemies? If we were less given over to antiseptics we should be much more aseptic.

I am, Sir, yours faithfully,

Harley-street, W., Jan. 30th, 1921. LEONARD WILLIAMS.

REFERRED PAIN.

To the Editor of THE LANCET.

SIR,—I have just read the leading article in your issue of Jan. 22nd on the question of "referred pain," and am surprised at the conclusion that "reflex, reflected, or, better still, deflected pain, is far from being the common accompaniment of abdominal diseases it is uncritically taken to be," and still more surprised at the grounds for this conclusion—namely, that Dr. A. F. Hurst failed to find any cutaneous hyperæsthesia in ten cases of gastric ulcer operated on by Sir Berkeley Moynihan, although the ulcer was present in nine cases out of ten. Leaving out of the question the point as to whether the internal organs are capable of feeling pain, the practical issue for clinicians is the truth or otherwise of Sir James Mackenzie's viscero-sensory and viscero-motor reflexes, and, as you have practically denied the existence of the first, I propose to give some results showing that it exists. The rigid muscle over an inflamed appendix, for instance, is too familiar to require explaining or describing, and I will assume that Dr. Hurst accepts the usual explanation that it is connected in some way or another with the diseased appendix. This is the viscero-motor reflex, and although it is so common it has to be diligently and carefully sought for as one of the indications of disease of an internal organ, and it may even be the only objective sign, which no physician or surgeon would neglect to evalue in making a diagnosis. Now if the truth of the viscero-motor reflex is granted, why should it be doubted for a moment that the tissues immediately above the muscles can be affected in their own proper way and the viscero-sensory reflex excited?

The terms viscero-sensory reflex and viscero-motor reflex are at once a definition and a description, and, like all truths, appeal at once to the mind by their simplicity, and to elicit them no apparatus is required, while the time taken to test them is very short, and if it is the first procedure used in making an examination the time saved is enormous. The importance and significance of the viscero-sensory reflex and the viscero-motor reflex was first impressed upon me by Mackenzie's book, "Symptoms and their Interpretation," but I owe all I know as to the practical application of this knowledge to Mr. D. Ligat, who was induced by Mackenzie to examine all his cases before operation as to the conditions present in the abdominal wall, and then to try to correlate the conditions found at the operation with the symptoms, subjective and objective, that had been noted during the examination. This took place seven years ago, and ever since then I have been looking for this sign, and can say that every abdominal case I have had has been tested for hyperalgesia, and if there is one symptom that has been helpful in enabling me to arrive at a diagnosis as to the abdominal organ at fault, it has been this one. That there are tender areas in the abdominal wall in many abdominal diseases is to me, and to many others who practise it daily, a clinical fact there is no disputing.

Before describing the results of my observations it may be well to state my experience with regard to the attitude I have noticed towards this phenomenon amongst my friends. Generally it has been one of indifference, as the procedure has appeared to be much too simple to elicit anything, while others have been interested and have tried it, but failed to make anything of it and have given it up. I am convinced now that if a practical demonstration were given on the person of any sceptic and an unsuspected hyperalgesia were found there would never be any doubters as to the reality of this sign. This actually occurred in the person of a relative who had long toyed with the idea until I elicited an area of hyperalgesia over his stomach. Without meaning disrespect to Dr. Hurst, I should say that he failed to find hyperalgesia because he did not know how to apply the test, as I cannot believe that in 10 successive cases of gastric ulcer hyperalgesia was absent. It is quite possible but not probable. In any case its absence in even 10 cases means nothing, as negative results have no significance, while a positive finding is a fact that cannot be disputed. The proper method to be used is the following, the essential feature being that the whole of the tissues down to the deep fascia covering the muscles must be picked up between the finger and thumb and gently but firmly pressed between the opposing digits. The skin and tissues in the flank are first picked up and the amount of pressure estimated that the patient can stand without pain or discomfort. This is used as a standard for comparison with the points at which hyperalgesia may be found. The skin and tissues over these points are then picked up, and if there is hyperalgesia the patient shows it by flinching or moving away, or even by shouting out, so acute may this hyperalgesia be at times.

It may be thought that this sign would only be useful in examining patients of some degree of intelligence, but as a rule the opposite is the case, as, if anything, it is brought out most accurately in children, in whom it is remarkable to see how they never vary in the spots they say are painful, or indicate to be so by flinching, showing conclusively to my mind that the whole abdominal wall is not hyperalgesic, but only specific parts related in some specific way to some specific organ. In children, too, I have watched them come and go during their gastro-intestinal attacks, in which, by the way, the appendix is usually involved as well, and the conclusions I have come to after watching a great number is, that something is left in the appendix after such attacks—the appendix reflex being the last to disappear—and may become a focus from which chronic dyspepsia, so called, results.

The following case will illustrate what I mean:—

A small boy had such a gastro-intestinal attack with involvement of his appendix five years ago and diagnosed as such by the presence of the usual hyperalgesic areas. The attack was all over in two days. I advised an operation but nothing was done. The boy passed out of my care and I did not see him again until last year, when I was asked to examine him as he was suffering from asthma. After examining the chest, without finding anything to account for his asthma, I examined the abdomen and found very definite hyperalgesia over the small gut area and appendix, and gave my diagnosis as chronic appendicitis. I was then told that ever since I had seen him five years ago he had had repeated attacks of indigestion, acute and chronic, and that his life had been a misery to him. He was operated on and the diseased appendix removed, since when he has been perfectly well, although hyperalgesia can still be elicited over the small gut area but not over the appendix.

I find in such cases it takes a very long time for the hyperalgesia to disappear from the small gut areas. It indicates the necessity for careful feeding, &c., for some considerable time and gives a warning that the whole trouble is not removed by taking away the appendix. The following case will help to make clear the important fact that this sign is not always present even when sought for, and it may help Dr. Hurst to understand that the "necessary stimulus" is not always present even although the lesion is there.

This lady was taken ill with what she called "acute indigestion" while away on a visit. On returning home she consulted her own doctor, who called in an eminent consultant, and her condition was attributed to a floating kidney. The tumour lay under the right rectus, and could be easily palpated. An attempt to replace the tumour in the right loin only resulted in causing great pain and made her medical attendant begin to doubt the diagnosis. He asked for another consultation with his friend, and, as the patient was a friend of mine, she asked me to be present. I saw her and examined her, and found hyperalgesia over the gall-bladder area and some rigidity of the upper right rectus, and came to the conclusion that she had a distended gall-bladder, and gave that as my diagnosis, but it was not accepted, and Mr. Ligat was asked to see her. He knew what I said I had observed, but when he examined her there was no hyperalgesia and no rigidity. Taking all the facts

into consideration, however, he advised an operation, and on cutting down a large gall-bladder full of pus and stones was removed.

Now the only reason why I found hyperalgesia and rigidity was because the "necessary stimulus" had been supplied by the manipulation to replace the supposed kidney in the loin, and this had disappeared by the time Mr. Ligat examined her. As Mr. Ligat states in his lecture, the absence of the sign means nothing, but its presence, even if only noted once, is a fact that may count for everything in arriving at a diagnosis, as in this case. Its presence, however, is so constant is certain conditions, that its absence is remarked upon and there is usually some explanation for the fact forthcoming if the case comes to an operation. In "acute abdomens" the necessity to operate is urgent and the absence of an accurate diagnosis is not altogether detrimental to the successful treatment of the case, although if the lesion can be located by the presence of a hyperalgesic area time is often saved which in such cases is of the first importance to the patient.

In this connexion it has been very interesting to read a paper by Mr. Burgess, of Manchester on "Diagnoses of Acute Abdominal Crises,"[1] in which he states that "the presence of these hyperalgesic areas is of very great value in determining the viscus primarily responsible." In chronic cases, however, such as the two mentioned, in children from whom it is difficult or even impossible to get a satisfactory statement of their ailments, or where their aches and pains are; in some cases where there is nothing to guide one as to the nature of the illness or even what organ of the body is involved, an examination of the abdominal wall for the presence of hyperalgesic areas may reveal the nature of the case and suggest the appropriate treatment.

I am, Sir, yours faithfully,

Bexhill-on-Sea, Jan. 25th, 1921. A. MURDOCH.

*** Dr. Murdoch leaves one of the chief points at issue out of the question—viz., whether the internal organs are capable of feeling pain. We said nothing about viscero-motor reflexes. Clinicians must decide whether the method of picking up skin and subcutaneous tissues and applying finger-thumb pressure is not open to fallacies on the part both of examiner and examinee. The misreference of pain from viscus to skin was in no way denied as an occasional occurrence.—ED. L.

SEPARATION OF PRESCRIBING AND DISPENSING.

To the Editor of THE LANCET.

SIR,—The Executive of the Association of Certificated Dispensers has had under consideration the discussion recently appearing in THE LANCET appertaining to the separation of prescribing and dispensing. While it agrees with the general principle, it wishes to make it known that there are over 5000 persons holding the Assistant's Certificate of the Society of Apothecaries, London, who are mainly engaged to-day as dispensers to hospitals, institutions, medical practitioners in private practice, &c., and that any attempt on the part of the Pharmaceutical Council or any other body to displace its members to the favour of pharmacists will be strongly opposed. For the information of those of your readers who may not be conversant with the respective functions of the apothecary's assistant and the pharmacist, it is recalled that the pharmacist is primarily licensed to keep open shop for the retailing and dispensing of poisons only, whereas the apothecary's assistant is a qualified dispenser of all substances used in medicine—poisons or otherwise. He was the first and is now the only non-medical person statutorily qualified in professional pharmacy.

I am, Sir, yours faithfully,

H. C. RICHARDS,
Hon. Sec., Association of Certificated Dispensers.

West Croydon, Jan. 25th, 1921.

[1] Brit. Med. Jour., Dec. 11th.

ORAL SEPSIS,

WITH SPECIAL REFERENCE TO ROOT INFECTION.

To the Editor of THE LANCET.

SIR,—Dr. Bertram Watson and Dr. W. H. Willcox have done well to call attention once more in your columns to the importance of chronic infective processes at the apices of the teeth in certain cases of obscure disease. The notion of "pyorrhœa" still holds sway over the minds of most practitioners, and of many dentists also, as being the sole type of dental infection which needs investigation and treatment in relation to general health. Suppurating periodontitis is, of course, of great importance as a cause of divers maladies. But the surface of the gums may be comparatively sound, "pockets" may be conspicuous by their absence, and still there may be deep-seated infection, often non-suppurative, at the apices of dead teeth, whether crowned or not. Such infection is, in my experience, even more important than "pyorrhœa" in connexion with such troubles as arthritis, fibrositis, neuritis, and certain blood infections. I advanced this proposition several years ago, and pointed out the importance of taking cultures from small sacs which form at the roots of dead teeth and from the extreme tips of partially absorbed apices themselves, procedures which not infrequently yield a copious and pure growth of streptococci *even when no suppuration is present*.[1] I brought the subject before the Odontological Section of the Royal Society of Medicine in 1914 in a paper published in the Proceedings of the R.S.M.

As bearing upon Dr. Willcox's letter, I quote the following:—

"Deep-seated toxic processes are often dependent upon non-suppurating infections when the nidus of the micro-organism is in close contact with the blood stream, as at the roots of the teeth. There may be very little suppuration: quite often there is no suppuration at all."

In THE LANCET of 1913 (Vol. I., p. 13) will be found an account of a case of ulcerating endocarditis in which the organism recovered by blood culture was *S. salivarius*. The patient's illness started after the removal of a tooth having infection of this kind. This case, and some similar ones that I have published, bear out Dr. Willcox's and Sir William Hale-White's experience, quoted by the former.

Dr. Willcox refers to the importance of X ray examination of suspected teeth. I pointed out in the paper above referred to that a critical examination of the alveolus by the naked eye frequently reveals evidence of root infection which otherwise escapes attention: soft spots in the adjacent gum, patches of congestion and blueness, minute sinuses quite remote from the gum margin, and an unduly broadened or thickened alveolar process as a whole. The presence of stigmata like these gives the practitioner valuable support in the view—which the X ray appearances may confirm—that he is wise in advising the sacrifice of teeth which are mechanically useful. In these days of too reckless extractions on inadequate grounds such confirmation is by no means to be lightly ignored.

I am, Sir, yours faithfully,

Harley-street, W., Jan. 30th, 1921. THOMAS HORDER.

PRESCRIBING AND DISPENSING OF IODINE IN LARGE DOSES.

To the Editor of THE LANCET.

SIR,—The annotation in your issue of Jan. 29th on the administration of large doses of iodine anticipates some notes of mine lately read before the Cambridge Medical Society, but not yet ready for publication; yet further methods practically worked out in its administration may not be amiss at once. The chief one, which, it is only fair to say, I owe to Dr. Mackenzie Wallis at the B.M.A. meeting last June, is to give these large doses in *milk*; the burning of the throat is thus entirely eliminated, the taste is not unlike custard, and it is readily taken. A compound of iodine is certainly formed with the casein, but I have found no difference in the

[1] Clinical Pathology in Practice, 1910.

therapeutic effects. When dropped into or mixed with water the iodine is liable to separate out and hang about and burn the throat. Another aid, and one which has the advantage of cheapness in saving spirit, is to order the amount of iodine necessary, exactly the same quantity of iodide of potassium and simple water to make the mixture. In the great majority of patients this small quantity of iodide does not produce iodism; but for those who seem unable to take the smallest quantity of iodide the spirituous form in drops dropped into milk must be ordered. The most susceptible can take it without symptoms of iodism in this form.

I am, Sir, yours faithfully,

St. Ives, Huntingdon, Jan. 29th, 1921. W. R. GROVE.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surg.-Lieut. L. F. Strugnell to be Surgeon Lieutenant-Commander.

ARMY MEDICAL SERVICE.

Col. L. P. More is placed on half pay.
Col. J. V. Forrest retires on retired pay.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Col. A. E. Master retires on retired pay.
Lieut.-Col. J. D. G. Macpherson is placed on retired pay on account of ill-health contracted on active service.
Major H. T. Wilson relinquishes the acting rank of Lieutenant-Colonel.
Officers relinquishing their commissions:—Temporary Captains retaining the rank of Captain: W. S. T. Neville, A. F. Wyatt, R. Grant, J. Monroe, and L. V. Gatt.

SPECIAL RESERVE OF OFFICERS.

Bt. Lieut.-Col. W. H. G. H. Best is restored to the establishment.

TERRITORIAL FORCE.

Lieut.-Col. P. Paget to be Deputy Assistant Director of Medical Services, 42nd (East Lancs.) Division, with pay and allowances of a Major.
Major C. E. Walker (late R.A.M.C) to be Captain and to relinquish the rank of Major.
Major W. Macdonald resigns his commission and retains the rank of Major.
Capts. C. H. Carlton (late R.A.M.C., Spec. Res.) and D. S. Sutherland (from T.F. Res.) to be Captains.
Capts. T. R. Kenworthy and L. D. Bailey to be Majors.
Capts. W. H. Date and J. Morley resign their commissions and retain the rank of Captain.
Lieut. R. K. Nisbet (late R.A.M.C.) to be Lieutenant.

ROYAL AIR FORCE.

Capt. J. J. O'Mullane is transferred to the unemployed list.

INDIA AND THE INDIAN MEDICAL SERVICE.

Capt. H. H. King has been appointed permanently to the Bacteriological Department. Lieut.-Col. J. H. Hugo has been posted as Residency Surgeon, Kashmir, vice Lieut.-Col. McIver Smith. The following Majors have been promoted Lieutenant-Colonels:—A. G. McKendrick, O. S. J. Moses, F. W. Sumner, H. R. Nutt, W. D. Ritchie, J. Husband, G. C. L. Kerans, H. W. Illius, J. B. Christian, L. P. Brassey, P. L. O'Neill, N. E. H. Scott, J. K. S. Fleming, E. C. Hepper, C. E. Southon, G. Fowler, H. B. Foster, C. B. McConaghy, E. W. Browne, A. Murphy, and C. F. Marr. Lieut. F. W. Matthews, superintendent, Central Prison, Naini, Allahabad, has been appointed to officiate as Civil Surgeon, Rai Barelli. Major J. H. Murray has assumed the duties of Superintendent, Central Jail, Lahore. Capt. C. L. Emmerson, R.A.M.C., has been appointed to officiate as Civil Surgeon, Darjeeling, vice Major A. Denham White, who has proceeded on leave. Major J. D. Sandes, surgeon to the Governor of Bengal, has been granted a year's leave. Major R. Knowles, secretary of the School of Tropical Medicine and Hygiene, Calcutta, has proceeded on eight months' leave. Major R. C. Hallowes has been appointed to the Civil charge of Barrackpore. Major D. P. Watson officiates as Civil Surgeon of Naini Tal during the absence on leave of Lieut.-Col. W. S. Willmore. Major S. C. Chuckerbuty has been posted as Civil Surgeon, Kamrup. Lieut.-Col. M. Corry, civil surgeon, has been appointed Lecturer on Midwifery and Forensic Medicine, and Major R. A. Chambers, principal of the school, Lecturer on Medicine in the Government Medical School at Amritsar. Major R. F. D. Macgregor, medical officer of the Consulate, has been appointed to officiate as His Brittanic Majesty's Consul at Seistan pending the arrival of a successor to Mr. B. J. Gould, who has proceeded on leave. Captain E. S. Goss officiates as an Additional Assistant Director-General, Medical Services, at the Headquarters of the Government of India. Lieut.-Col. H. Ross has been appointed Medical Officer in Charge of the British Mission to Cabul.

ROYAL SOCIETY.—**On Thursday, Feb. 10th, the** Rev. John Roscoe will read a Résumé of the Results obtained by the Mackie Anthropological Expedition to Uganda.

Obituary.

EDMUND JOHNSON SPITTA, M.R.C.S., L.R.C.P. LOND.

ON Jan. 21st the death occurred at Hove—where he had resided since his retirement in 1904—of Dr. Edmund Johnson Spitta, late chairman of the Sussex County Council, and well known as an entomologist and lecturer on natural history. Born in 1853, a son of the late Dr. Robert John Spitta, he was educated at Clapham Grammar School and studied medicine at St. George's, St. Thomas's, and Westminster Hospitals. At St. George's he was a prizeman at the medical school, and acted as senior demonstrator of anatomy. He qualified M.R.C.S. Eng., L.R.C.P. Lond., in 1874, and then for 30 years practised with his father in Clapham.

Spitta was in his earlier years especially interested in photography and astronomy; in 1880 he was made a Fellow of the Royal Astronomical Society, of which he afterwards became vice-president. He was also a prominent member of the Royal Microscopical Society and of the Quekett Microscopical Club, holding the offices of vice-president and president respectively. Notwithstanding the claims of a large general practice Dr. Spitta found, or rather made, time to become not only an expert microscopist but an authority on microphotography. His collaboration with Mr. Charles Slater in the production of an excellent Atlas of Bacteriology, published in 1898, marked the beginning of a long friendship between the joint authors. Dr. Spitta's holidays were organised as photographic expeditions and his family enlisted as assistants. His work on microphotography led to an interest in "process" reproduction, to a very valuable study of microscope objectives, and, after his retirement, to the publication in 1907 of a book on Microscopy, of which a third edition appeared last year. This book treats of the subject from a broad standpoint, teaching by means of admirable diagrams and photographs the principles and laws on which the instrument is constructed, as well as the way to get the utmost possible information from its use. Dr. Spitta also published a book on Photomicrography. He enjoyed making microphotographic films for the kinematograph, and was the first to produce moving pictures of plant and insect life. He devised many ingenious pieces of apparatus, and became very popular as a lecturer on scientific subjects, drawing upon his own large stock of photographs for their illustration. Spitta was especially interested in scientific advances which had a practical and mechanical side. Wireless telegraphy and telephony attracted him so much that he fitted his house with receiving apparatus. His mechanical skill was considerable, and his practical mind went straight for essentials. The subjects which interested him he pursued with immense energy and great thoroughness. No trouble was too great to ensure a good result, and he was a severe critic of his own work. Though this showed the accuracy which we now demand from an expert, in the range and character of his interests he resembled less the modern scientific specialist than the scientific inquirers of an earlier generation, and his versatility was not the least of his striking qualities.

DAVID YELLOWLEES, M.D. EDIN., LL.D. GLASG.

WITH the death of Dr. Yellowlees at Edinburgh on Jan. 19th, in his eighty-fifth year, has passed away a man who combined high professional attainment in mental medicine with a gift for administration. David Yellowlees was born and brought up at Stirling, graduated at Edinburgh in 1857, and after a period of study abroad returned as assistant to Sir William Gairdner at the Edinburgh Royal Infirmary. His first appointment in psychiatry was to assist Dr. Skae at the Edinburgh Royal Asylum, Morningside, and in 1863 he went to direct the Glamorgan County Asylum, where he

remained 12 years. In 1874 he followed Dr. Mackintosh as physician superintendent to the Royal Glasgow Asylum, Gartnavel, a post which failing eyesight obliged him to relinquish in 1901. During the greater part of this time he lectured on insanity in the University of Glasgow, which conferred upon him the honorary degree of LL.D. in 1888. He presided over the Psychological Section of the British Medical Association which met at Glasgow in 1885, over the Medico-Psychological Association in 1890, and over the Faculty of Physicians and Surgeons of Glasgow in 1892–94.

Under Yellowlees Gartnavel became a keen centre of psychiatric thought. His physical energy and enthusiasm, combined with a radiant optimism, infected his assistants, as well as in some measure the patients and their friends. His routine was to entrust each of his helpers with the entire responsibility of a part of the asylum, and to hear and discuss their reports at his own house every day at noon. He then visited the wards independently, acting as a kindly and sagacious consultant. Simple and frank himself, he expected, and generally found, the same qualities in others, who grew to rely upon his honest and fearless character.

Dr. Yellowlees took a leading part in the philanthropic work of the city which became his second home. He was for the greater part of his active life on the directing board of the Association for the Relief of Incurables, the Bramhill Home for Incurables, and the Lanfine Home for Consumptives. He helped to found the Glasgow Association for the Care of Defective and Feeble-minded Children, and warmly supported the Glasgow Medical Missionary Society. Work for the protection of women and children always found in him a good friend. All these things were the outcome of deep religious conviction.

After his retirement in 1901 Dr. Yellowlees continued to live in Glasgow until the autumn of 1919, when he returned to Edinburgh to spend the last 18 months of his life. He is survived by his wife, a daughter, and two sons, both of whom are in the medical profession. Dr. David Yellowlees is in practice at Stirling; Dr. Henry Yellowlees is senior assistant physician to the Royal Edinburgh Asylum.

ARTHUR JACKSON, F.R.C.S. ENG.

Mr. Jackson, who died at Shrewsbury on Jan. 9th in his 66th year, had long enjoyed a surgical reputation beyond the county borders. A native of Grays in Essex, he took his medical education at St. Bartholomew's Hospital, London, qualifying in 1878, and becoming F.R.C.S. Eng. in 1882. After filling certain house appointments he went to Shrewsbury to join the late Mr. J. R. Humphreys in partnership, and soon joined him also on the surgical staff of the Salop Infirmary. For nearly thirty years he developed his surgical skill and resource here and at other hospitals and institutions in the neighbourhood, while he was in request as a consultant over a wide area. His death was due to double pneumonia accompanying influenza and following on the news of the sudden death in India of his only son. His widow and a daughter survive him. The memorial service on Jan 12th was attended by a large gathering of medical men.

THE LATE MR. W. L. ROBERTSON.—The death took place at Dundee on Jan. 24th of Mr. W. L. Robertson, who was a well-known surgeon there. Death was the result of septicæmia following a punctured wound on the finger, sustained while performing an operation at the Royal Infirmary on Jan. 17th, but it was not until four days after that Mr. Robertson developed serious symptoms. Mr. Robertson was the eldest son of Mr. J. C. Robertson, C.A., ex-Treasurer of Dundee. After receiving his preliminary education at the High School, he proceeded to St. Andrews University, where he graduated M.A. Subsequently he had a distinguished career in medicine at Edinburgh University, graduating M.B., Ch.B. in 1905, and two years later he obtained the Fellowship of the Royal College of Surgeons of Edinburgh.

Medical News.

UNIVERSITY OF OXFORD.—In a Congregation held on Jan. 20th, the degree of Bachelor of Medicine was conferred on Thomas Sydney Nelson, University College, and Harold George Burford, Christ Church.

The Board of the Faculty of Medicine gives notice that in and after Michaelmas Term, 1921, candidates for the Final B.M. Examination will be required to submit a certificate of attendance at a course of practical instruction in ophthalmology, to include not less than 20 meetings, during a period of three months, at an ophthalmic clinic recognised by the Board.

UNIVERSITY OF LONDON.—*Charing Cross Hospital Medical School.*—A special course of lectures on Fevers, their Clinical and Epidemic Features, Measures of Prevention and Treatment, will be delivered by Dr. William Hunter in the Medical School on Thursdays, at 4.30 P.M., beginning Feb. 10th. The lectures are free to doctors and students of medicine.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—An ordinary Comitia of the College was held on Jan. 27th, Sir Norman Moore, the President, being in the chair. The following were admitted to the Membership of the College: Drs. J. M. H. Campbell, J. H. Dible, M. G. Hannay, B. Hart, F. G. Hobson, Charlotte A. King, D. McAlpine, W. E. Robinson, M. S. Thomson, and W. Wrangham.—Jointly with the Royal College of Surgeons of England diplomas were granted to the successful candidates in public health, tropical medicine and hygiene, psychological medicine, and ophthalmic medicine and surgery.—Dr. A. P. Beddard, Dr. A. J. Hall, Dr. J. W. Russell, and Dr. Gowland Hopkins were elected councillors to take the place of Dr. W. H. Hamer, Dr. A. F. Voelcker, Sir P. Horton-Smith-Hartley, and Dr. F. F. Caiger.—Leave was granted to Dr. A. Gregson Williams to resign his membership and to Mr. H. H. Coates to resign his Licence and Diploma in Public Health.—Dr. W. G. Tyson was nominated delegate to a Congress of the Royal Sanitary Institute to be held at Folkestone from June 20th to 25th.—A memorial received from the Council of the Section of Otology, Royal Society of Medicine, asking the Royal Colleges to grant a Diploma in Otology, was referred to the Committee of Management for report.—The President announced that he had appointed Dr. Herbert Spencer to deliver the Harveian Oration and Dr. Michael Grabham the Bradshaw Lecture in 1921; and the Council had appointed Dr. Major Greenwood to deliver the Milroy Lectures in 1922.—A medal presented to Sir Humphry Rolleston at the centenary of the Académie de Médecine, was given by him to the College.—Representatives of the College were appointed on the following bodies: Central Midwives Board, Sir Francis Champneys; Court of Governors of Liverpool University, Sir Dyce Duckworth reappointed; Court of Governors of Birmingham University, Dr. Voelcker; Committee of Management of the Chelsea Physic Garden, Sir George Savage reappointed; Conjoint Board of Scientific Societies, the President and Dr. H. Head reappointed; Central Council for District Nursing in London, Sir William Hale-White reappointed.—Acting on a report from the Committee of Management the Technical College, Bradford, was recognised for the course of laboratory instruction for the Diploma in Public Health, and the William Ellis Endowed School, Gospel Oak, N.W., Ipswich School, and the Municipal College, Burnley, were added to the list of institutions recognised for instruction in chemistry, physics, the last-named also in biology; the Infectious Diseases Hospital, Cambridge, was added to the list of fever hospitals recognised by the Conjoint Board; and the special course of three months' study of advanced public health at Haslar was recognised as sufficient to reduce to three months the instruction under a medical officer of health required for the Diploma in Public Health.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—Diplomas have been conferred upon the following candidates who have passed examinations in the undermentioned subjects:—

DIPLOMA IN PSYCHOLOGICAL MEDICINE.

Mostafa Dia, Cairo and St. Mary's; Edmund Duncan Tranchell Hayes, Trin. Coll., Dublin; Owen Sidney Martin, Univ. Coll.; and Henry William Parnis, Malta.

DIPLOMA IN OPHTHALMIC MEDICINE AND SURGERY.

Joseph Ringland Anderson, Melbourne Univ. and Royal London Ophth. Hosp.; Robert Smith Candlish, Sydney and Western Ophth. Hosp.; Kamil Maximus Labiebe, Manchester and Royal London Ophth. Hosp.; William Oliver Lodge, Leeds; Behram Hormusji Pesikaka, Royal London Ophth. Hosp.; Syed Abdur Rahim, Bombay and Royal London Ophth. Hosp. and George Zachariah, Royal Eye Hosp., Southwark.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following lectures are to be delivered in the theatre of the College, Lincoln's Inn-fields:—Two Hunterian lectures on the Surgery of the Peripheral Nerve Injuries of Warfare, by Professor Harry Platt, on Feb. 7th and 9th; one Hunterian lecture on a Research into the Pathology and Ætiology of Loose Bodies Composed of Cartilage or of Cartilage and Bone occurring in Joints, by Professor A. G. Timbrell Fisher, on Feb. 11th; one Arris and Gale lecture on the Cause and Prevention of Myopia, by Dr. F. W. Edridge-Green, on Feb. 16th. These lectures will be given at 5 P.M. On Monday, Feb. 14th, at 4 P.M., the Hunterian oration will be delivered by Sir Charters J. Symonds. Fellows and Members of the College are invited to attend.

POST-GRADUATE LECTURES FOR LONDON PANEL PRACTITIONERS.—Further courses in clinical pathology and venereal diseases are being arranged during the spring, and practitioners wishing to attend them are desired to send in their names to the secretary of the Panel Committee. The fee for each course is £3 3*s*.

LONDON HOSPITAL MEDICAL COLLEGE.—**Dr. Percy** Kidd, consulting physician to the London Hospital, has been elected Schorstein Memorial Lecturer for 1922. The lecture for 1921 will be delivered on June 3rd by Dr. A. G. Gibson, who has chosen as his subject Chronic Inflammatory Diseases of the Spleen.

HUNTERIAN SOCIETY.—**The annual oration will** be delivered by Dr. Henry Howarth Bashford on "The Ideal Element in Medicine" on Wednesday, Feb. 16th, at 9 P.M., at the Sion College, Embankment, London, E.C. All members of the medical profession are invited to attend.

MEDICAL CORONER.—**Dr. William Bentley Purchase** has been appointed deputy coroner for the Eastern District of London.

No. 19 C.C.S.: ANNUAL DINNER.—**The second** annual dinner will take place on Feb. 19th, at the Refectory Restaurant, Golders Green, London. Those wishing to be present are asked to apply for tickets (15*s*.) to the Rev. E. C. Doddrell, 6, Alexandra House, Regent's Park-road, Finchley, N. 3.

NATIONAL DENTAL HOSPITAL: ANNUAL DINNER.—The annual dinner of the Students' Society was held at the Hotel Cecil, London, on Jan. 27th. The chairman was Mr. A. B. G. Underwood, sub-dean of the school, who was supported by Sir Kenneth Goadby, Mr. Peter Sidney Spokes, Dr. George Blacker, Mr. Relph, Dr. Dudley Buxton, Dr. J. Strickland Goodall, Mr. J. L. Dudley Buxton, Dr. C. J. Ogle, Dr. J. Maughan, and Dr. H. Pinto-Leite. After the usual toasts had been honoured, a presentation was made to Mr. Spokes by the chairman on behalf of the staff of the National Dental Hospital and other subscribers. Mr. Underwood referred to the great services to the hospital of Mr. Spokes. These extended over a period of 33 years. He had held the office of dean of the school since 1891, and it was mainly through his efforts that the present amalgamation with University College had been carried out, the National Dental Hospital now being the dental school of University College. Mr. Spokes suitably replied. Mr. R. Lindsay gave the toast of "The Students' Society," and Dr. Pinto-Leite proposed "The Visitors" and Mr. E. H. Lawrence "The Chairman." Dr. Blacker and Mr. Underwood responded.

MEDICAL OFFICERS OF SCHOOLS ASSOCIATION.—A general meeting of this association will be held at 11, Chandos-street, Cavendish-square, London, W., on Feb. 15th, at 4.45 P.M., when a paper will be read by Dr. E. H. T. Nash on "School Punishments." Preparatory to this meeting a questionnaire has been circulated amongst the members of the association. The questions are:—

1. What form or forms of corporal punishment are in use at your school? 2. By whom are they administered? 3. With what are they administered? 4. Is corporal punishment reserved for any special offences? 5. Are any regulations laid down by the authorities, or is each master free to use his own discretion? 6. Do you approve of caning on the hand? Please give reasons for or against. 7. Have you seen any ill-results from caning on the hand? If so, what? 8. Have you seen any ill-results from caning on the buttocks, or from any other form of corporal punishment in use at your school? 9. Please state what form of corporal punishment you, as an S.M.O., believe to be the most effective and least liable to produce harmful results. 10. Please state what forms of punishment are in use at your school other than corporal punishment, and what your personal opinions are as to the effect on the pupil. 11. Have any cases come to your notice where corporal punishment has had an unsatisfactory result on the pupil apart from the physical effect? 12. Any personal opinions on the matter apart from the foregoing questions will be welcomed.

A general conference of school medical officers, educationists, and others will be convened at a later date to discuss such conclusions as may be reached on Feb. 15th.

DONATIONS AND BEQUESTS.—**A donation of £12,000** has been received by the Manchester Royal Infirmary from the National Relief Fund, £158 in legacies, and £145 in other donations.—The St. Mary's Hospitals, Manchester, have received £1750 from the Women's Guild of Service, and other donations to the amount of £433.

UNIVERSITY OF ABERDEEN.—**A special graduation** ceremony took place in Marischal College, Aberdeen, on Jan. 25th, when the graduates in the special final medical examination held last term had their degrees conferred upon them. The capping ceremony was performed by Principal Sir George Adam Smith, Vice-Chancellor, and the graduands were presented by Professor C. R. Marshall, Dean of the Faculty of Medicine.

SCOTTISH MIDWIVES BOARD.—**The Central Mid**wives Board for Scotland as constituted under the Act of 1915 will consist from Feb. 1st of the following members, the appointing body being given before the name or names:—

Scottish Board of Health, three members, two of whom shall be midwives practising in Scotland: Miss Alice Helen Turnbull, superintendent health visitor, Maternity and Child Welfare Department, Edinburgh. *Practising:* Miss Isabella Lewis Scrimgeour, superintendent, Cottage Nurses' Training Home, Govan; Miss Kate Leslie Scott, chairman of Council of Scottish Midwives' Association, Aberdeen.

Association of County Councils for Scotland: Sir Archibald Buchan-Hepburn, convener of Haddington County Council.

Convention of Royal Burghs of Scotland: Sir Robert Cranston, Edinburgh.

Queen Victoria Jubilee Institute for Nurses, Scottish Branch: Dr. James Haig Ferguson, Edinburgh.

Society of Medical Officers of Health of Scotland: Dr. A. Campbell Munro.

University Courts of Edinburgh and St. Andrews, one member, conjointly, Dr. J. A. C. Kynoch, Professor of Midwifery, St. Andrews.

Uni ersity Courts of Glasgow and Aberdeen, one member, conjointly: Dr. Robert Gordon McKerron, Professor of Midwifery, Aberdeen.

The Royal Colleges, one member, conjointly: Dr. Robert Jardine, Glasgow.

Scottish Committee of British Medical Association: Dr. Michael Dewar, Edinburgh; Dr. E. H. L. Oliphant, Glasgow.

SOCIETY FOR THE PREVENTION OF HYDROPHOBIA.—A meeting of the committee of this society was held at the Farmers' Club, Whitehall Court, London, on Feb. 1st. Mr. F. W. Fletcher, acting honorary secretary, reported the deaths of Dr. Sidney Turner, the late chairman of the committee, and of Mr. Frank Karslake, the late honorary secretary. The committee then appointed Major J. Penberthy chairman and Mr. Fletcher honorary secretary. Major Penberthy, from the chair, drew attention to the great services rendered to the society by the late Dr. Turner and the late Mr. Karslake, and said that this was also the first opportunity the committee had had of referring to the services of the late Sir Victor Horsley, who had preceded Dr. Turner as chairman and had taken such an active part in the work of the society. A motion was placed on record expressing the committee's sense of the great losses the society had sustained. The minutes of the last meeting of the committee, held in July, 1919, were then read and a financial statement was received from Mr. F. B. Debenham, honorary treasurer, from which it appeared that the society's expenditure from May, 1919, when activities were recommenced, to the end of December, 1920, had been £60 5*s*. 1*d*., leaving a debit balance of £8 17*s*. 6*d*. The principal item of expense had been the printing of 1000 copies of the booklet on Rabies and Hydrophobia, of which a number were still available at 1*s*. each. The committee then considered what steps should be taken with regard to the renewed outbreaks of rabies which during the past two years have occurred in various parts of the country. It was pointed out that these have probably originated from the smuggling of dogs into the country from the continent, the Air Service affording ample opportunity for this deplorable practice. Fines had no deterrent effect, and it was the intention of the committee to urge the Government to make such smuggling a penal offence. The futility of recent endeavours to stamp out rabies by muzzling dogs in limited areas had again been demonstrated, and until the policy advocated by the society of universal muzzling of dogs for a definite period was adopted, the disease would never be eradicated. Propaganda was indispensable for the enlistment of public support, and a certain amount of expenditure was therefore necessary. The society had no paid officials, the whole of the work entailed being honorary; it was, however, important that the existing deficit be cleared off and that the treasurer should have funds in hand to meet future expenses; it was therefore decided to issue a report setting forth the financial position to members of the society. After a short discussion with reference to the formation of a council and the possibility of strengthening the executive committee, the meeting closed.

PAYMENT FOR MEDICAL SERVICES AT A VOLUNTARY HOSPITAL.—The Great Northern Central Hospital has now graded its accommodation into three sections. In the general wards (140 beds) necessitous cases are admitted free, but patients who can afford to do so give 1s. to 20s., according to circumstances. Patients in the contributory wards (62 beds) pay £1 1s. to £4 4s., according to their means, as assessed by the committee. The treatment of patients in the general and contributory wards is undertaken gratuitously by the honorary medical staff. The recently inaugurated private wards (18 beds) are intended for patients whose means do not allow of the payment of the usual medical and surgical fees, but who are willing to contribute towards the cost of medical services and of maintenance while in the hospital. The payments range from 4½ to 6 guineas per week, with a fee for medical service of £1 1s. per visit—maximum fee for medical service £3 3s. per week. For an operation £5 5s. will be payable to cover the reduced fees of the surgeon and the anæsthetist and the charge for the use of the theatre. By arrangement with a member of the honorary medical staff and the patient concerned private practitioners may attend the hospital to share in the treatment. The patient in this case pays the local medical practitioner's fee. In assessing the amount payable by patients the committee will arrange for a rebate of 50 per cent. off the medical fees where the income is the minimum for the private wards or exceeds the minimum by not more than £100.

ADMISSION OF PAYING PATIENTS TO LIVERPOOL POOR-LAW HOSPITAL.—The guardians of the West Derby Union in the city of Liverpool, with a view to relieve the pressure on accommodation of the voluntary hospitals, have decided to set apart a certain portion of the buildings of their hospital in Mill-road for the treatment of paying patients, male or female adults, who reside within the West Derby area and who are suffering from acute disease of a non-infectious or non-contagious character. It is intended to make an inclusive charge of 3 guineas per week for the maintenance and treatment of each patient. This will benefit many who, while unable to receive prompt admission into one of the voluntary hospitals, cannot afford to pay the usual fees of the nursing homes. It is anticipated that the sum of 3 guineas will be sufficient to cover the maintenance and treatment of these patients, who will be dealt with on the lines of private patients. For their treatment the operating theatre of the hospital will be available, and X ray, electro-therapeutic, and massage departments. The hospital is under the administration of a medical superintendent, who is assisted by three resident medical officers and a visiting staff of specialists. The guardians state that this scheme will not lessen except in a minor degree the accommodation available for the destitute sick. By arrangement with the medical superintendent it will be possible for the patient's own doctor or for any specialist he may desire to consult with the ordinary medical staff of the hospital.

ROYAL SOUTHERN HOSPITAL, LIVERPOOL: DINNER TO SIR ROBERT JONES.—Under the chairmanship of Lord Derby, over 200 friends and colleagues of Major-General Sir Robert Jones assembled in the Adelphi Hotel, Liverpool, on Jan. 31st to entertain him to dinner and present him with his portrait in oils, subscribed for by the committee and staff of the Royal Southern Hospital. The gathering was a tribute to the popularity of the guest of the evening; former residents of his had come from all parts of the country to be present; not only were Liverpool surgeons present, but Sir Berkeley Moynihan came from Leeds, and a letter of apology from Sir Anthony Bowlby regretted his unavoidable absence. After the loyal toasts the chairman proposed the toast of "The Guest"; he spoke in terms of the highest appreciation of Sir Robert Jones's work among crippled children, and then passed on to show how the coping-stone had been added to his life's work by the help he had rendered to the crippled and disabled soldiers during and since the war. Under his magnetic spell, and in consequence of his genius for organisation, orthopædic hospitals had been opened in all the great centres in the country, and new hope had been brought into the lives of many a disabled man. Mr. G. P. Newbolt, senior surgeon to the Royal Southern Hospital, in supporting the toast, recalled many interesting incidents in the life of Sir Robert Jones and himself when they had worked together first at the Stanley Hospital and afterwards as surgeons to the men engaged in constructing the Manchester Ship Canal, and he bore high testimony to the lovable qualities of the guest as a colleague and a friend. The toast was pledged with enthusiasm, after which the chairman unveiled and presented the portrait. Sir Robert Jones, who received a great ovation, paid a tribute to the late and great Hugh Owen Thomas, that pioneer in orthopædic surgery whose splint had been the means of reducing the mortality of fracture of the thigh in the war from 80 to 20 per cent., and he bore witness to the help and encouragement he had received from the chairman as Minister for War in his work of organising the orthopædic centres throughout the country. The following toasts were then honoured: "The Royal Southern Hospital," proposed by Dr. J. Gemmell, President of the Liverpool Medical Institution, and responded to by Mr. Thomas Woodsend, President of the Hospital Committee; "The Guests," proposed by Dr. C. J. Macalister and responded to by Vice-Chancellor J. G. Adami and Sir Berkeley Moynihan; and "The Chairman," proposed by Mr. T. R. W. Armour; to whose work as organising secretary the success of the banquet was largely due.

LORD MAYOR OF BRISTOL'S HOSPITAL SUNDAY FUND.—In an appeal for the collection undertaken on Jan. 30th on behalf of this fund, it is stated that in the four chief voluntary hospitals of the city—the General Hospital, the Royal Infirmary, the Children's Hospital, and the Eye Hospital—103,065 patients were treated last year at a cost of £90,792, being nearly £57,501 more than the income. Last year's collection reached a record total of over £6000.

EAST GRINSTEAD DISPENSARY.—At the sixty-second annual meeting of this dispensary it was stated that from 1912 onwards the income had only once met the expenditure, and then only with a balance of £1. To meet these yearly deficits the reserve fund had been drawn upon. Three possible courses of action—to continue as at present until the reserve be exhausted, to appeal for funds, or to close down—were considered by the subscribers, and by a unanimous vote it was decided to approach the local Cottage Hospital with a view to amalgamation, and to carry on meanwhile.

R.A.M.C. (T.) CONCERT AT BIRMINGHAM.—The annual supper and smoking concert of the Royal Army Medical Corps, Territorial Units of Birmingham, was held at the White Horse Hotel, Birmingham, on Jan. 28th, Lieutenant-Colonel C. H. Howkins, R.A.M.C., presiding. The chairman pointed out the great strides that had been made in recruiting for the units since the New Year and the indication there was that these units would shortly be at full peace strength. About 100 members were present and an excellent programme of music was provided.

MANCHESTER ROYAL EYE HOSPITAL.—This hospital is feeling severely the greatly increased cost of upkeep. In spite of an unexpected gift of £5000 from the National Relief Fund, the year finished with an adverse balance of £3715, and this takes no account of the sale of certain securities. The St. John-street out-patient department is closed. Its sale will realise a useful sum, but the amount obtained is required for a new out-patient department on a site already secured opposite the hospital.

SIR GEORGE MAKINS AT BELFAST.—On Jan. 27th Sir George Makins gave an address to the Ulster Medical Society on "Injuries to the Heart," the President, Dr. Thomas Houston, being in the chair. The address dealt with the experience garnered in the late war, and was one of exceptional interest and importance. A vote of thanks to the lecturer was passed by Professor T. Sinclair and seconded by Dr. J. Walton Browne. On Jan. 28th Sir George Makins addressed a meeting of the Belfast Medical Students' Association on "Our Profession," the President of the association, Professor W. St. C. Symmers, being in the chair. There was a crowded attendance of students of both sexes, and the distinguished visitor had an enthusiastic reception. The speaker dealt first with some of the phases of medical education, and pointed out some of the advantages of the old apprenticeship system. He emphasised the importance of practical experience with disease at the earliest stage in the student's career, and expressed his preference for the older system under which the student was introduced to hospital work while still engaged in the study of the preliminary subjects. He thought that danger lurked in the multiplication of specialised methods of examination, and pointed out that a fallacy might exist even in a Wassermann reaction. The laboratory worker was no more exempt from error than was the clinician. The large majority of medical students became general practitioners, and would often practise in places where they could not command the services of the pathologist or the radiologist. There was the more reason to cultivate the older methods of observation and diagnosis, which were always available. He thought that in many respects the career of the general practitioner was a more desirable one than that of the specialist. The general practitioner in many cases knew his patients from the cradle and was their trusted friend and adviser, while the relations of the specialist to his patients were slight and casual. In contrasting the surgeon and the physician he thought that while in these days the surgeon had the advantage financially, the physician was in most cases the more learned man.

COMMITTEE ON VOLUNTARY HOSPITALS.—A meeting of Lord Cave's Committee on Voluntary Hospitals was held on Feb. 2nd at the Ministry of Health, when evidence was given in the morning by Sir Cooper Perry and Mr. Maynard on behalf of the King Edward VII. Hospital Fund, and in the afternoon by Mr. Verity, chairman of Charing Cross Hospital. Evidence is to be taken from Mr. Vernor Miles on behalf of the small general hospitals in the London area.

CHILD-STUDY SOCIETY.—A lecture on Vocational Tests will be given by Mr. C. H. Miles, D.Sc., at 90, Buckingham Palace-road, London, S.W., on Thursday, Feb. 10th, at 6 P.M.

MEDICO-LEGAL SOCIETY.—A meeting of this society will be held at 11, Chandos-street, London, W., on Tuesday, Feb. 15th, at 8.30 P.M., when a paper will be read by Dr. Halliday Sutherland on Medical Evidence in the Staunton Murder Trial.

NO. 14 GENERAL HOSPITAL: REUNION DINNER.—A reunion dinner of the staff (medical officers, sisters, and V.A.D.'s) of No. 14 General Hospital (Wimereux) will be held at the Ladies' V.A.D. Club, 28, Cavendish-square, London, W., at 7.30 P.M., on Wednesday, March 16th, Sir John Goodwin presiding. Application for tickets, price 15*s.* inclusive, should be made to Miss Sloggett, 6, Bickenhall Mansions, London, W. 1.

ENCEPHALITIS LETHARGICA. — The Registrar-General's latest return shows that 21 cases of encephalitis lethargica were notified in London during the week ending Jan. 22nd. Of these 5 occurred in Stepney and 2 each in Fulham, Lambeth, and Southwark. Sixteen cases have been reported in Manchester during the last month. A fatal case of a man, aged 24, occurred at Mossley, after being asleep for 11 days. Another fatal case occurred in the Union Infirmary, Oldham, at the end of the week, the victim being a young woman, who had been asleep for 10 days before her death.

Appointments.

HENRY, LYDIA M., M.D. Shef., has been appointed Assistant Medical Officer for Blackburn.

MORLEY, J., Ch.M. Vict. Manch., F.R.C.S. Eng., Honorary Assistant Surgeon, Manchester Royal Infirmary, Manchester.

WHITEFORD, C. HAMILTON, M.R.C.S., L.R.C.P. Lond., Consulting Surgeon to the Great Western Railway, Plymouth Centre.

WYNNE, F. E., M.B., B.Ch. Dubl., D.P.H., Medical Officer of Health for Sheffield.

West London Hospital: STEWART, T. G., M.D. Edin., Physician; PINCHIN, A. J. S., M.D. Lond., Assistant Physician; PATERSON, H., Medical Registrar; DAVIES, T. B., M.D. Lond., Obstetric Registrar.

Vacancies.

For further information refer to the advertisement columns.

Aberdeen Dispensary and Vaccine Institution.—Hon. M.O.

All Saints' Hospital for Genito-Urinary Diseases, 49/57, Vauxhall Bridge-road, S.W.—Res. H.S. £200.

Belgrave Hospital for Children, Clapham-road, S.W.—Asst P. 50 gs.

Birmingham, Dudley-road Hospital.—Res. Asst. M.O. £413.

Bootle Borough Hospital.—Sen. and Jun. H.S.'s. £200 and £150.

Brighouse Borough.—M.O.H. and Sch. M.O. £650.

Burnley County Borough.—Female Asst. M.O.H. £500.

Cardiff, King Edward VII. Hospital.—Hon. Asst. Ophth. S.

Croydon County Borough.—Res. Med. Supt., Sanatorium, North Cheam. £500.

Dreadnought Hospital, Greenwich.—H.P. and H.S. £150.

East Ham Education Committee.—Sch. Dentist. £450.

Eccles and Patricroft Hospital.—Res. H.S. £200.

Exeter, Royal Devon and Exeter Hospital.—P. and S.

Federated Malay States Colonial Service.—Pathologist to the Medical Research Institute. £1050.

Glasgow Education Authority.—Dentist. £400.

Glasgow, Woodilee Mental Hospital, Lenzie, near Glasgow.—Asst. M.O. £350.

Great Yarmouth Hospital.—H.S. £250.

Greenwich and Deptford Practitioners L.C.C. School Clinic Committee, 22, Park-row, Greenwich, S.E.—Refract., P., Aural S., and Anæsth. £80.

Hastings Education Committee.—Asst. Sch. M.O. £500.

Holborn Metropolitan Borough.—M.O.H. £1000.

Hull Royal Infirmary.—Asst. H.S. £150.

Italian Hospital, Queen-square, W.C.—Officer-in-Charge of X Ray Department.

Kent, Borough of Bromley.—M.O.H. £750.

Kent Education Committee.—Female Sch. Med. Inspec. £500.

King's College Hospital, Denmark Hill, S.E.—Jun. Anæsth.

Kingswood, Bristol, Cossham Memorial Hospital.—Visiting S.

Leeds General Infirmary.—M.O. £100.

Leicester Royal Infirmary.—H.S. £200.

London Hospital.—Demonstratorship in Minor Surgery. £200.

London (Royal Free Hospital) School of Medicine for Women and Royal Free Hospital.—First and Second Assts. in Gynæc. and Obst. Unit. £700 and £500.

Loughborough and District General Hospital and Dispensary.—Res. H.S. £200.

Macclesfield, Cheshire County Asylum, Parkside.—Asst. M.O. £350.

Maidstone, Kent County Mental Hospital.—Asst. M.O. £350.

Manchester, Children's Hospital, Pendlebury, near Manchester.—Asst. S. £50.

Manchester Royal Infirmary.—H.S. to Special Departments. £50. Also Jun. Anæsth. £100.

Miller General Hospital for South-East London, Greenwich-road, S.E.—Hon. Asst. P.

National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury, W.C.—Res. M.O. £200.

Netherne Mental Hospital, Coulsdon, Surrey.—Asst. M.O. £400.

Newark Hospital and Dispensary.—Res. H.S. £200.

Newcastle-upon-Tyne, Royal Victoria Infirmary.—Res. Anæsth. £120.

Newport, Mon., Royal Gwent Hospital.—H.S. £200.

Northumberland County Asylum, Morpeth.—Asst. M.O. £400.

Oldham Royal Infirmary.—Third H.S. £200.

Peterborough General Infirmary.—H.S. £150.

Plymouth, South Devon and East Cornwall Hospital.—H.P. £175. Also Asst. S.

Plymouth Workhouse and Infirmary.—Res. Asst. M.O. £300.

Portsmouth Royal Hospital.—H.S. £150.

Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.—Obst. S.

Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—Res. M.O. £200. H.S. £100.

Queen Mary's Hospital for the East End, Stratford, E.—Hon. Ophth. S.

Royal London Ophthalmic Hospital, City-road, E.C.—Pathologist and Curator. £200, Also Sen. H.S. £150.

Royal Waterloo Hospital for Children and Women, S.E.—Cas. O. £150.

Saffron Hill Maternity Centre.—Hon. P.

St. Bartholomew's Hospital.—P.

St. Bartholomew's Hospital Medical School.—Chair of Anatomy. £900.

St. Mary's Hospital, Paddington, W.—Electro-therapeutic O.

St. Peter's Hospital, Henrietta-street, Covent Garden, W.C.—Hon. M.O.

Sheffield Royal Infirmary.—Asst. Cas. O. £150

Singapore, Straits Settlements.—Asst. Principal of Medical School. $600 per month.

Stannington (Northumberland) Children's Sanatorium.—Female Res. M.O. £250.

Sunderland Royal Infirmary.—Two Jun. H.S.'s. £200.

University of London.—External Examiners.

West Bromwich and District Hospital.—Res. Asst. H.S. £200.

York Dispensary.—Res. M.O. £250.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Portree, Horbury, and Penmaenmawr.

Births, Marriages, and Deaths.

BIRTHS.

DREW.—On Jan. 30th, at a nursing home, Chester, the wife of Major C. M. Drew, D.S.O., R.A.M.C., of a son.

MANDEL.—On Jan. 26th, at Harley-street, W., the wife of Dr. Leopold Mandel, M.D., M.R.C.P., of a daughter.

MATTHEWS.—On Jan. 27th, at Onslow-square, the wife of Dr. Guy Matthews, of a son.

RICE-OXLEY.—On Jan. 31st, at Victoria-road, Kensington, W., the wife of Douglas Rice-Oxley, M.C., M.B., B.S., of a son.

MARRIAGES.

HINCKS—MCGILLYCUDDY.—On Jan. 25th, at New Malden, Surrey, A. Cecil Hincks, M.C., M.B., Ch.B., to Ethel Florence, widow of Major R. H. McGillycuddy, M.C., R.A.M.C.

DEATHS.

DAYUS.—On Jan. 26th, at Cumberland Lodge, Romford Road, Forest Gate, after a short illness, Frederick Herbert Dayus, M.R.C.S. Eng., L.R.C.P. Lond., aged 52.

HASSALL.—On Jan. 31st, at The Dingle, Manor-road, Worthing, John Hassall, M.D., M.R.C.S., F.R.M.S., aged 65 years.

WRIGHT.—On Jan. 29th, at Mountsorrel, Romford, Alfred Wright, M.R.C.S., L.S.A., J.P., aged 81.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

BOOKS, ETC., RECEIVED.

ARNOLD, EDWARD, London.
A Handbook of Skin Diseases and their Treatment. By Arthur Whitfield, M.D. Lond., F.R.C.P. 2nd revised ed. Pp. 291. 18*s.*

BAILLIÈRE, TINDALL, AND COX, London.
Physiological Chemistry. By A. P. Mathews, Ph.D. 3rd ed. Pp. 1154. 40*s.*

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.
Graphic Methods in Heart Disease. By J. Hay, M.D. With Introduction by Sir James Mackenzie. Pp. 178. 12*s.* 6*d.*
The Care of Human Machinery. By R. M. Wilson, M.B. Pp. 238. 10*s.* 6*d.*
The Science of Ourselves (a Sequel to the "Descent of Man"). By Sir Bampfylde Fuller, K.C.S.I. Pp. 326. 16*s.*
Medical Notes. By Sir Thomas Horder, M.D. Pp. 112. 6*s.*
Feebleness of Growth and Congenital Dwarfism. By Dr. Murk Jansen. Pp. 82. 12*s.* 6*d.*

LEWIS, H. K., AND CO., London.
Bacteriology, Blood Work, and Animal Parasitology. By E. R. Stitt, M.D. Pp. 633. 20*s.*

Medical Diary.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.
THURSDAY, Feb. 10th.—Paper:—The Rev. J. Roscoe: A Résumé of the Results obtained by the Mackie Anthropological Expedition to Uganda.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Tuesday, Feb. 8th.

SECTION OF PSYCHIATRY: at 8.30 P.M.
Paper:
Dr. W. A. Potts: Mental Tests.

Wednesday, Feb. 9th.

SECTION OF SURGERY: SUBSECTION OF PROCTOLOGY: at 5.30 P.M.
Case:
Sir Charles Gordon Watson: Fistulæ treated by Excision and Primary Suture.
Papers:
Mr. W. B. Gabriel: The Results of an Experimental and Histological Investigation into 75 Cases of Rectal Fistulæ. (Showing Sections and Cases of Proved Tuberculous Fistulæ.)
Mr. H. Graeme Anderson: Method of Abdomino-perineal Excision of the Rectum in Three Stages.

Thursday, Feb. 10th.

SECTION OF NEUROLOGY.
Clinical Meeting at 8 P.M., at the National Hospital for Paralysis and Epilepsy, Queen-square, W.C.1.
Those Members who wish to show cases should communicate with the Hon. Secretary, Dr. P. W. Saunders, at the Hospital.

Friday, Feb. 11th.

CLINICAL SECTION
SECTION OF MEDICINE } JOINT MEETING: at 5 P.M.
SECTION OF SURGERY
Discussion:
On "The Medical and Surgical Treatment of Graves' Disease" (to be opened by Dr. Hector Mackenzie and Mr. James Berry).
Other Speakers:—Prof. George R. Murray, Sir William Hale-White, Mr. T. P. Dunhill, Mr. Donald Armour, Dr. J. M. H. Campbell, Dr. Florence Stoney, Dr. Hernaman-Johnson, and Mr. W. H. C. Romanis.
The Hon. Secretaries will be glad to learn of other Members who wish to contribute to the discussion.

SECTION OF OPHTHALMOLOGY: at 8.30 P.M. (Cases at 8 P.M.)
Papers:
Mr. B. T. Lang: Scotometry.
Dr. T. Harrison Butler: Late Infections after Sclerectomy.
Mr. M. L. Hepburn: Some Notes on Trephining.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.
MONDAY, Feb. 7th.—9 P.M., Lettsomian Lecture (I.):—Mr. G. E. Gask: Surgery of the Lung and Pleura.

BIRMINGHAM MEDICAL PSYCHOLOGICAL SOCIETY.
WEDNESDAY, Feb. 9th.—4.15 P.M., Paper:—Dr. D. Gillespie: The Symptoms of an Epileptiform Attack.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.
MONDAY, Feb. 7th, AND WEDNESDAY.—5 P.M., Hunterian Lectures:—Prof. H. Platt: The Surgery of the Peripheral Nerve Injuries of Warfare.
FRIDAY.—5 P.M., Hunterian Lecture:—Prof. A. G. T. Fisher: A Research into the Pathology and Ætiology of Loose Bodies composed of Cartilage or of Cartilage and Bone occurring in Joints.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.
MONDAY, Feb. 7th.—2 P.M., Mr. B. Harman: Eye Department. Dr. S. Pinchin: Medical Out-patients. Dr. Morton: X Ray Department. 5 P.M., Lecture:—Dr. A. Saunders: The Digestive Disturbances of Old Age.
TUESDAY.—10 A.M., Mr. Steadman: Dental Department. Dr. McDougal: Electrical Department. 2 P.M., Mr. Banks Davis: Diseases of the Throat, Nose, and Ear. 5 P.M., Lecture:—Mr. Baldwin: Appendicitis.
WEDNESDAY.—10 A.M., Mr. MacDonald: Genito-Urinary Department. 2 P.M., Mr. Addison: Operations. Dr. Burnford: Demonstration of Cases (Medical Wards). 5 P.M., Lecture:—Mr. D. Armour: Physical Signs and Diagnosis of Abdominal Tumours.
THURSDAY.—10.30 A.M., Dr. Simson: Gynæcological Demonstration. 2 P.M., Mr. MacDonald: Surgical Out-patients. Mr. B. Harman: Eye Department. 5 P.M., Special Lecture:—Dr. C. Porter: Epidemic Diarrhœa (open to all medical practitioners).
FRIDAY.—2 P.M., Mr. T. Gray: Surgical Out-patients. Dr. Pernet: Skin Department. 2.30 P.M., Mr. Addison: Visit to Surgical Wards. 5 P.M., Lecture:—Mr. Baldwin: Appendicitis.
SATURDAY.—10 A.M., Dr. A. Saunders: Medical Diseases of Children. 12 noon, Mr. Sinclair: Surgical Diseases of the Abdomen. 2 P.M., Dr. Owen. Medical Out-patients.
Daily:—10 A.M. Ward Visits. 2 P.M., In-patient, Out-patient Clinics and Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.
MONDAY, Feb. 7th.—10 A.M., Mr. W. E. Tanner: Surgical Out-patients. 2 P.M., Dr. A. J. Whiting: Medical Wards. 2.30 P.M., Mr. E. Gillespie: Surgical Operations. Mr. J. B. Banister: Gynæcological Out-patients. Dr. J. B. Alexander: Medical Out-patients. 4.30 P.M., Clinical Demonstration:—Mr. J. B. Banister: Heart Disease in Pregnancy. 6 P.M., Dr. F. L. Provis and Mr. T. H. C. Benians: Venereal Department.
TUESDAY.—9.45 A.M., Lieut.-Col. R. H. Elliot and Mr. N. Fleming: Eye Operations. 2.30 P.M., Mr. H. W. Carson: Surgical Operations. Mr. C. H. Hayton: Diseases of the Throat, Nose, and Ear. Dr. Metcalfe: X Ray Department. 3 P.M., Clinical Demonstration:—Dr. J. Metcalfe: Treatment of Surface Disease by Electrolysis. 5.30 P.M., Dr. C. E. Sundell: Children In-patients.
WEDNESDAY.—2 P.M., Mr. C. H. Hayton: Throat Operations. 2.30 P.M., Dr. W. J. Oliver: Skin Department. Dr. J. B. Alexander: Medical Out-patients. 4.30 P.M., Clinical Demonstration:—Mr. N. Fleming: Cases of Eye Disease. 5 P.M., Dr. Provis and Mr. Benians: Venereal Department.
THURSDAY.—2.30 P.M., Mr. N. Fleming: Eye Out-patients. Dr. A. J. Whiting: Medical Out-patients. Mr. H. W. Carson: Surgical Out-patients. Mr. J. B. Banister: Gynæcological Operations. Dr. J. Metcalfe: X Ray Department. 3 P.M., Clinical Demonstration:—Dr. C. F. Hadfield: Anæsthetic Demonstration.
FRIDAY.—2 P.M., Mr. Howell Evans: Surgical Operations. 2.30 P.M., Dr. C. E. Sundell: Children Out-patients. Mr. E. Gillespie: Surgical Out-patients. 3 P.M., Clinical Demonstration:—Mr. T. H. C. Benians: Diagnostic Methods of Clinical Pathology. 5 P.M., Dr. Provis and Mr. Benians: Venereal Department.
SATURDAY.—3 P.M., Mr. H. W. Carson: Surgical In-patients.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, W.C.1.
MEDICAL SCHOOL.
MONDAY, Feb. 7th.—2 P.M., Out-patient Clinic: Dr. Collier. 3.30 P.M., Lecture:—Dr. Kinnier Wilson: Old and New Afferent Systems.
TUESDAY, Feb. 8th.—2 P.M., Out-patient Clinic: Dr. Grainger Stewart. 3.30 P.M., Lecture:—Dr. Collier: Diagnosis of Cerebral Vascular Lesions.
THURSDAY, Feb. 10th.—2 P.M., Out-patient Clinic: Dr. Farquhar Buzzard. 3.30 P.M., Lecture:—Dr. Farquhar Buzzard: Neuritic Affections of the Upper Limbs. (II.)
FRIDAY, Feb. 11th.—2 P.M., Out-patient Clinic: Dr. Gordon Holmes. 3.30 P.M., Lecture:—Mr. Sargent: Cerebral Abscess.
Fee for Post-Graduate Course £7 7s. C. M. HINDS HOWELL, Dean.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.
THURSDAY, Feb. 10th.—4 P.M., Lecture:—Dr. Nabarro: Congenital Syphilis.

MIDDLESEX HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON).
TUESDAY, Feb. 8th.—3 P.M., Emeritus Lecture:—Surg.-Rear-Admiral Bassett-Smith: Trypanosomiasis.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland-street, W.
MONDAY, Feb. 7th.—5.30 P.M., Post-Graduate Lecture:—Dr. F. W. Price: The Arterial Pulse.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, W.
Post-Graduate Course on Infant and Child Welfare.
TUESDAY, Feb. 8th.—10.30 A.M., Dr. E. Pritchard: Practical Demonstrations on the Management and Feeding of Infants and Young Children—Demonstration VII., The Uses of Dried Milk and Patent Foods.
THURSDAY.—3 P.M., Demonstration VIII., The Management of Difficult Cases.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.
THURSDAY, Feb. 10th.—6 P.M., Chesterfield Lecture:—Dr. W. K. Sibley: Alopecia and its Treatment.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE CLINIC.
TUESDAY, Feb. 8th.—4.30 P.M., Lecture:—Dr. H. R. Dean: Recent Work on the Pneumococcus and the Serum Treatment of Pneumonia.

SALFORD ROYAL HOSPITAL AND ANCOATS HOSPITAL POST-GRADUATE DEMONSTRATIONS, at the two Hospitals alternately.
THURSDAY, Feb. 10th.—4.30 P.M., Dr. Morrison: Radiographical Demonstration. (At Ancoats Hospital.)

ST. MARY'S HOSPITALS, MANCHESTER, POST-GRADUATE LECTURE, at Whitworth-street West Branch.
FRIDAY, Feb. 11th.—4.30 P.M., Dr. F. Shaw: The Present Position of Cæsarean Section.

MANCHESTER BABIES' HOSPITAL.
Post-Graduate Lectures and Demonstrations in the Onward Buildings, Deansgate, or at the Hospital, Slade-lane.
SATURDAY, Feb. 12th.—3.30 P.M., Dr. Dyson: Skin Diseases in the Infant. (At Onward Buildings.)

MANCHESTER FRENCH HOSPITAL POST-GRADUATE LECTURES, 24, Acomb-street, Whitworth Park.
THURSDAY, Feb. 10th.—4.30 P.M., Dr. W. J. Leighton: Some Chronic Ear Diseases.

THE LANCET: SUBSCRIPTION RATES.

INLAND	One Year	£2 2 0
	Six Months	1 1 0
	Three Months	0 10 6
ABROAD	One Year	£2 10 0
	Six Months	1 5 0
	Three Months	0 12 6

Subscriptions may commence at any time, and are payable in advance.

Notes, Short Comments, and Answers to Correspondents.

WARNING TO HOSPITAL AUTHORITIES.

WE are asked to draw the attention of all medical practitioners, and particularly of hospital authorities, to a woman calling herself Margaret Crawford, M.B., Ch.B. Leeds (or Margaret de Lancy Williams), whose arrest is sought on a warrant by the Metropolitan Police for alleged offences against the Medical Act, 1858. It is possible that this woman will seek admission to some hospital or infirmary for the purpose of obtaining instruction in midwifery, and it is requested that any information concerning her should be communicated at once to the local police.

PUBLIC HEALTH IN CALCUTTA, 1919.[1]

THE death-rate in Calcutta during 1918, calculated on the Census population of 1911, was 35 per 1000, representing what Dr. H. M. Crake, the medical officer of health, has characterised in his report as "the appalling total" of 31,371 deaths. A further considerable increase in mortality followed in 1919, when there were 37,839 deaths, giving a ratio of 42·2 per 1000; this is the highest death-rate ever recorded in the city, except that of the plague year, 1900, which was 53·7, and is in great contrast to the rate for 1917 (23·8), which was the lowest ever recorded, and to the quinquennial ratio (1914–18), which was 28·0 per 1007. If 2170 imported cases be deducted, the rate for 1919 becomes 39·8 per 1000. Cholera, small-pox, and influenza were all prevalent in an acutely epidemic form. There was, as usual, considerable variation within the city, which had (in 1911) a population of 896,067. Thus, in Jorabagan Ward the death ratio was 47.4, in Entally 51·3, and in Kidderpur 81·1. On the other hand, in Bamun Bustee the rate was only 26·5; in Fenwick Bazar, 25·2; and in Park-street, 15·3. (The death-rate for Greater London, in 1918, was 15·0 per 1000.) In Fort William the ratio was indeed only 5·8, the quinquennial average having been 3·6. There is evidently nothing in the climate of Calcutta to necessitate a mortality of 42, still less of 81, per 1000. In regard to social condition and religious faith, among Hindus (who compose the great majority of the population), the death-rate was 45·2; for Mohammedans, 37·9; and for Anglo-Indians and other non-Asiatics (numbering 27,659), it was 27·4. As has often been pointed out, the mortality among females was much higher than among males; the respective ratios, 53·7 and 36·7, were as 146 to 100. As Dr. Crake remarks, "this is one of the most striking features of the vital statistics of Calcutta. It has been observed ever since accurate records were kept, and will, I am afraid, continue for many years to come. The heavy mortality amongst females is, in my opinion, intimately associated with the purdah system ..... depriving women of fresh air, and constantly exposing them to insanitary environments." In Burra Bazar Ward, with a mortality of 34·2 per 1000, the rate for females was 63·2, and for males 28·2; there are 140 persons per acre, not so dense a population as in many other wards. In Bamun Bustee Ward, with a mortality of only 26·5, the female ratio was 62·5, and that for males 18·1; here the average density is only 24 per acre. Dr. Crake points out that this "high female death-rate in a first-class European residential quarter is startling, but on examining the data on which the rate is calculated, it is evident that a rate per 1000 based on 37 deaths occurring amongst a female population of 592 must be accepted with caution. In a precisely similar adjoining ward (Park-street) there were 20 deaths among 815 females, a rate of 24·5 per 1000." It is to be noted, however, that in the preceding quinquennium there was a similar great disparity between the sexes in Bamun Bustee, 32·0 deaths per 1000 among females, compared with 10·6 among males.

Principal Causes of Death.

With reference to the diseases that were the principal causes of death, an increase in prevalence has to be recorded in almost every case. For influenza (3863 deaths), however, there was a reduction (3·7 per 1000, compared with 4·6 in 1918), though many deaths from this cause may have been returned under respiratory diseases or fevers. There was some increase in plague, 334 deaths, or 0·37 per 1000 compared with 0·23 in 1918: in Alipur Ward there were 52 deaths (2·6 per 1000). Dr. Crake repeats his warning as to the existence of "many potential plague centres in Calcutta, and that the conditions in many parts of the city are still favourable to its propagation." Cholera caused 3688 deaths (4·1 per 1000), compared with 1526 deaths in 1918. The epidemic began in October, 1918, suddenly assumed an acute form in January (610 deaths), and again in April (1050 deaths), and came to an end in July. Cases occurred in every ward of the city. Kidderpur had the highest mortality (8·0 per 1000), but, with this exception, all the wards with a cholera death-rate of 5 per 1000, or more, abut on the river, pointing to the obvious cause. "The large amount of water-borne cholera in a city like Calcutta, with a filtered water-supply of remarkable purity, is a positive crime, but cannot be eradicated so long as ceremonial ablutions in Tolly's Nullah and contaminated tanks play a large part in the social and religious life of certain sections of the population." Nearly a hundred persons actually suffering from the disease, returning from a native festival at Saugor Island (at the mouth of the Hugli river), arrived in the city on Jan. 17th and 18th, no previous intimation having been received. Prompt action was taken, and everything possible done to deal with this emergency. 300 deaths from cholera occurred between Jan. 16th and 21st, 217 being among the pilgrims who had arrived from Saugor. Dr. Crake emphasises the necessity for systematic medical inspection of all boats arriving at Calcutta, also for a quarantine station and segregation camp. There was an outbreak of small-pox causing 1870 deaths (2·1 per 1000), a considerable increase over the three years immediately preceding, in which the ratios had been (1916–18), 0·06, 0·03, and 0·60 respectively. Primary vaccination is only compulsory at six months of age, therefore a high incidence among infants is almost inevitable: 712 deaths, however, occurred in children under 5 years old, regarding which Dr. Crake (in agreement with Kitasato) considers that the protection afforded by vaccination diminishes much more rapidly than was formerly held to be the case.

Enteric fever was more prevalent than in any of the five years immediately preceding, the death-ratio being 0·44 per 1000, compared with 0·38 in 1918, and 0·27, for the quinquennium 1914–18. The highest ratio (0·83 per 1000) occurred in Jorasanko Ward, with 227 persons to the acre, the most crowded ward (except one) in the whole city; but in other wards with a relatively high enteric incidence there was no obvious connexion with sanitary defects. Infection through carriers is considered to be probable. There was a very slight increase in tuberculosis (2·1 deaths per 1000, compared with 2·0 in 1918, and 1·7 in 1917). The highest incidence occurred in Jorasanko and Sukeas-street Wards (2·7 in each). For Hindus (2·2) and Mohammedans (2·1) the ratios were almost the same; and among Indian Christians the mortality (1·8) was much lower than in 1918, when it had been 4·8 per 1000. The female death-rate for this disease was 3·2, exactly double that for males (1·6); it is, as has been frequently pointed out, chiefly the young women who suffer; for the age-period 15 to 20 the death ratio was 5·6 for females, compared with 1·5 for males. This disparity is due to the purdah system, and continues, though in a lesser degree, up to the age of 40. There was less influenza than in 1918, the deaths (3363) amounting to 3·7 per 1000, compared with 4·6 in the previous year. Kidderpur Ward was most affected, with 12·9 deaths per 1000. The epidemic was dealt with on lines similar to those found to be satisfactory in 1918, over a hundred relief centres being opened for the treatment of mild cases, and serious cases being visited at their homes. A mysterious outbreak of epidemic dropsy occurred in the latter half of the year, causing 96 deaths (65 in November and December). Hindus suffered more than Mohammedans, and women more than men. A protozoal infection is suggested, the bed-bug acting as carrier. Many other subjects of interest are dealt with in this valuable report, which is fully illustrated with diagrams, tables, and a map of Calcutta.

[1] Report of the Health Officer of Calcutta. Corporation Press, Calcutta, 1920.

MENTAL TESTS FOR SCHOOL CHILDREN.

FROM the eleventh annual report of the Manchester school medical officer (Dr. A. Brown Ritchie) for 1919, just issued, we learn that medical inspection is being carried out on pre-war lines, but that a larger staff may be needed. Only 40 children needed compulsory cleansing, as compared with 85 in the previous year and 413 in 1915. Of skin diseases 738 cases were discovered and 95 cases of ringworm. At the school clinics for minor ailments in 1915 25,000 cases were treated, as compared with 196,000 in 1919. Included in the report is a suggestive preliminary note by Dr. H. Herd, on the Use of Psychological Tests of Mental Retardation. One of the most important duties of the medical officer is the diagnosis of mental deficiency or backwardness, and the most important part of such an examination is that of the psychological characteristics of the child. It is most essential to examine the functioning mental processes of the child, and this can only be done by definite mental tests. Scholastic progress affords but a poor criterion of the real mental grade of the child. A child with many superficial signs of school "smartness" may be lacking markedly in higher thought qualities, while the innate intelligence of a child may be only partially patent during school work, and

appearing only at a late stage of development. Several classes of tests are described, but these mental tests are necessarily only tests of intelligence, and the intelligence is not the whole man. "The instinctive emotional factor," says Dr. Ritchie, "enters as largely into our actions as those of intelligence. The place of the subconscious in life is only now beginning to be recognised, and the discovery is re-creating psychology. Intelligence tests therefore necessarily miss much, but for the immediate practical purpose of the certifying school medical officer their value is undoubted."

THE CONTAMINATION OF SHELL-FISH.

THE Health Ministry has recently issued prohibitory orders against the mussels at Lympstone, and promised to provide proper tanks for the purifying of the fish. At the last meeting of the Exeter Port Sanitary Authority it was stated that communications had been received from Dewsbury and other midland towns reporting that the mussels had been sent to them; these were proved on bacteriological examination to be contaminated, and that cases of illness had been caused by the fish. The authority decided to inquire why the mussels had been sent away contrary to regulations. It was also determined to write to the Ministry of Health requesting that the work of constructing the purifying tanks should be expedited.

SLUM LIFE IN MANCHESTER AND ITS RESULTS.

IT is stated that there are 150,000 persons living in slum property in certain already overcrowded areas of Manchester —that is, in Hulme, Ancoats, and Deansgate. Many families are crowded into the 20,000 houses which, according to medical standards, are unfit for human habitation. Even if the health authorities turned these people out of these vastly unhygienic "houses," so great is the shortage of accessible habitations that the outcasts would have no roof to shelter them. In some of what are called "two-up and two-down" tenements, three, four, or five families are huddled together, so that it is impossible to ensure the proper separation of the sexes. Naturally, the death-rate in these over-congested slum areas is abnormally high, varying from 23·29 per 1000, as against 14·5, the general death-rate for the city; the infant mortality is 191·6, as against the general rate of 111·2 per 1000. In one of these areas the death-rate for phthisis is 6, as against 1·56 for the whole city. Moreover, it would seem that house shortage and other conditions lead to the widespread adoption of a policy of birth control by young married couples.

EARLY SEX EXPERIENCE.

Dr. W. A. Brend's article on Psychotherapy and War Experience in the January issue of the *Edinburgh Review* is a useful outline in non-technical language of the new psychology in which Freudian teaching has taken its proper place. Speaking of the early age at which sex tendencies appear, and the help which parents might give in preventing abnormal developments, Dr. Brend goes on to say:—

> "Among boys much harm is done by parents and teachers in stigmatising certain tendencies and actions as vicious and shameful. It is now recognised that these tendencies form one of the natural stages on the way up to full sexual development. The physical harm is probably immaterial; the psychic harm which may result from creating a feeling of guiltiness and inferiority in the boy, or dread of consequences, may be great and lead to life-long disaster."

This statement of Dr. Brend as it stands, seems to us one of those one-sided pronouncements containing only a half truth, which may do as much harm as good. Certainly the harm which comes from masturbation has been exaggerated, and to try to keep boys straight by frightening them is almost always criminal. But to suggest that masturbation (and, presumably, the other practices that often go with it) does not matter is nonsense, as anyone knows who has seen the sequelæ in some boys or who remembers the social value of a normal sex outlook.

In regard to the prevalence of masturbation under a system of co-education, the head of a large mixed residential school writes:

> "Of course, here, as everywhere where adolescents are together, it is not unknown. But I am quite sure that it is not the normal accompaniment of sex-development here. Public opinion is against it. Heads of dormitories, if they have reason to think that any of those in their room are falling into it, speak to them or ask me to do so. That is no more than is done in many schools; the one point in which co-education seems to me to be of special help in the matter is that the daily intercourse of boy and girl affords a constant, largely unconscious, satisfaction of the awakening sex instinct, and so keeps it from turning in upon itself and from that brooding upon it that is, I am sure, the cause of most of the tendency to masturbation."

Plenty of interests—emotional outlet in art, and daily intercourse of the sexes—are undoubtedly useful means of keeping sex-development free from the need of this practice as a normal stage, and when it is present of making it a comparatively brief stage that does not get the lasting hold that affects mind as well as body.

MATERNAL PRECAUTIONS OF THE ELECTRIC SKATE.

Mons. Raphael Dubois made an interesting report to the Académie des Sciences at its session on Dec. 27th, 1920. A large electric skate (*Torpedo mormorotae*) was brought to the Maritime Laboratory of Physiology at Tamaris-sur-Mer. It was on the point of bearing young and gave strong electric shocks. These, apparently, had no ill-effects on the young, who were born the same night and were found snugly concealed beneath their mother next morning. The latter could be handled without any shock while the young were near her, but when the young had been taken away for experimental purposes powerful electric shocks reappeared. Mons. Dubois concludes that the electric discharge is not purely reflex but can be controlled, since in this case it was withheld to avoid doing damage to the offspring.

CHLOROPICRIN AS INSECTICIDE.

EXPERIMENTS carried out with chloropicrin in France have shown that this poison gas is a very effective weapon when used against vermin and insects. No other method, it is claimed in the *Archives de Méd. et Pharm. Navales* (December, 1920, p. 448), is so successful in ridding a building of fleas. A quantity of chloropicrin corresponding to 5 g. per cub.m. is placed in each room to be disinfected, and in a few hours every flea is dead—in carpets, furs, clothing, or no matter where else they may have installed themselves. The gas has no action on metals, paints, or dyes, and all fumes are removed by a few minutes' ventilation. Dr. Mirguet of the French Navy considers this method as particularly convenient for the destruction of vermin and insects on board ship, and urges its routine adoption by the French Ministry of Marine both on account of its intrinsic virtues and on the grounds of economy. The estimated cost is 13-14 francs per litre.

Communications, Letters, &c., to the Editor have been received from—

A.—Association of Certificated Dispensers, Lond., Hon. Sec. of; Dr. R. O. Adamson, Glasgow; Academy of Medicine, Toronto; Dr. J. Adams, Lond.; *Answers*, Lond., Editor of.

B.—British Committee for Aiding Men of Letters and Science in Russia, Lond., Sec. of; Dr. A. Blackhall-Morison, Lond.; Dr. C. W. G. Bryan, Lond.; Dr. H. W. Barber, Lond.; Prof. A. E. Boycott, Lond.

C.—Central News, Lond., Executive Editor of; Dr. R. C. Clarke, Lond.; Dr. H. P. Cholmeley, Forest Row; Mr. G. Chaikin, Lond.; Dr. J. B. Cavenagh, Worcester; Dr. C. Coombs, Bristol; Prof. E. L. Collis, Cardiff; Mr. W. H. S. Cheavin, Lond.; Charing Cross Hospital Medical School, Lond., Dean of; Dr. W. H. Cooke, Bath; Dr. T. Chetwood, Sheffield.

D.—Mr. G. B. Dowling, Lond.; Dr. S. Dougal, Manchester; Dr. A. A. Dear, Lond.; Sir J. Dundas-Grant Lond.

F.—Friends' Emergency War Victims Relief Committee, Lond.; Dr. G. W. Fleming, Wakefield; Mr. C. H. Fagge, Lond.

G.—Guy's Hospital Pupils' Physical Society, Lond., Sec. of; Mr. G. Graham, Lond.; Dr. W. R. Grove, St. Ives; Sir H. J. Gauvain, Lond.; Dr. J. H. Gellatly, Cambridge; Great Northern Central Hospital, Lond., Sec. of.

H.—Dr. H. T. Herring, Lond.; Dr. F. M. Hughes, Walmer; Messrs. W. Hodge and Co., Lond.; Dr. C. T. W. Hirsch, Lond.; *Hospital Social Service Quarterly*, New York, Managing Editor of; Hunterian Society, Lond.; Prof. W. S. Handley, Lond.; Maj.-Gen. Sir P. Hehir, I.M.S. (retd.), Westward Ho!

I.—Insurance Committee for the County of London; International News Correspondence Service, Lond.

J.—*Japan Magazine*, Tokio.

K.—King Edward's Hospital Fund for London, Hon. Secs. of.

L.—London Panel Committee; London Hospital Medical College, Sec. of.

M.—Dr. A. Murdoch, Bexhill-on-Sea; Dr. D. J. Mackintosh, Glasgow; Dr. C. G. Mackay, Lochcarron; Dr. J. J. MacDonnell, Lond.; Ministry of Health, Lond.; Dr. W. G. Macdonald, Boxmoor; Dr. R. W. MacKenna, Liverpool; Medico-Psychological Association of Great Britain and Ireland, Lond.; Dr. G. J. K. Martyn, Bath; Mr. H. H. B. MacLeod, Shrewsbury.

N.—National Hospital for Diseases of the Heart, Lond., Sec. of; National Anæsthesia Research Society, Columbus, Ohio.

O.—Dr. J. S. Owens, Lond.

P.—Peterborough General Hospital, Sec. of; Dr. A. C. Parsons, Lond.; Dr. H. R. Prentice, Lond.; Dr. E. P. Poulton, Lond.; Mr. A. D. Peacock, Newcastle-upon-Tyne.

R.—Royal Society of Medicine, Lond.; Dr. J. D. Rolleston, Lond.; Mr. H. Rundle, Southsea; Dr. A. Randle, Lond.; Dr. S. M. Ross, Derby; Dr. J. S. Ross, Edinburgh; Royal College of Surgeons of England, Lond.; Mr. G. A. Rouse, Lond.; Royal Society of London; Mr. H. Rowan, Lond.; Dr. H. Rayner, Lond.

S.—Dr. R. H. Steen, Dartford; Mr. T. Schroeder, Cos Cob, Conn.; Dr. H. Scurfield, Sheffield; Prof. W. Stirling, Manchester; Dr. A. G. Stewart, Lond.; Société des Sciences Médicales et Biologiques de Montpellier; St. Mary's Hospitals, Manchester, Sec. of; St. Mary's Hospital, Lond., Sec. of; Sir J. P. Stewart, Lond.; Messrs. G. Street and Co., Lond.; Sir C. Symonds, Lond.; St. Bartholomew's Hospital, Lond.; Dr. C. Slater, Tunbridge Wells; Save the Children Fund, Lond.; Dr. M. B. Shipsey, Birmingham; Scottish Board of Health, Edinburgh; Dr. I. D. Suttie, Glasgow.

T.—Mr. H. G. Terry, Bath.

V.—Mrs. E. Valintine, Norwich; Dr. R. Vincent, Lond.

W.—Dr. K. M. Walker, Lond.; Dr. S. R. Wells, Lond.; West London Hospital Post-Graduate College, Sec. of; Mr. B. W. Williams, Lond.; Dr. S. A. K. Wilson, Lond.; Mr. A. Whitfield, Lond.; Dr. A. J. Whiting, Lond.; Mr. A. J. Walton, Lond.

Y.—Dr. H. Yellowlees, Edinburgh.